



460909

Report On

May 29, 1985

Groundwater Flow Investigation

At

Gary Works

Prepared For

United States Steel Corporation



Prepared By



REPORT ON
GROUNDWATER FLOW INVESTIGATION
AT
GARY WORKS
U.S. STEEL CORPORATION

Prepared by

BAKER/TSA DIVISION
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Beaver, PA

May 29, 1985

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
GROUNDWATER FLOW INTERPRETATIONS	6
Site HWD-2	6
Site HWD-5	8
Site HWT-2	10
Site HWT-13	10
Site HWT-14	12
GROUNDWATER QUALITY COMPARISONS	13
Site HWD-2	13
Site HWD-5	17
Site HWT-2	20
Site HWT-13	27
Site HWT-14	32
APPENDICES	
A - Piezometer and Perimeter Well Logs/Construction Details	
B - Water Level Data Summaries	
C - Water Table Contour Maps	
D - Groundwater Quality Monitoring Data - 1983 to Present	

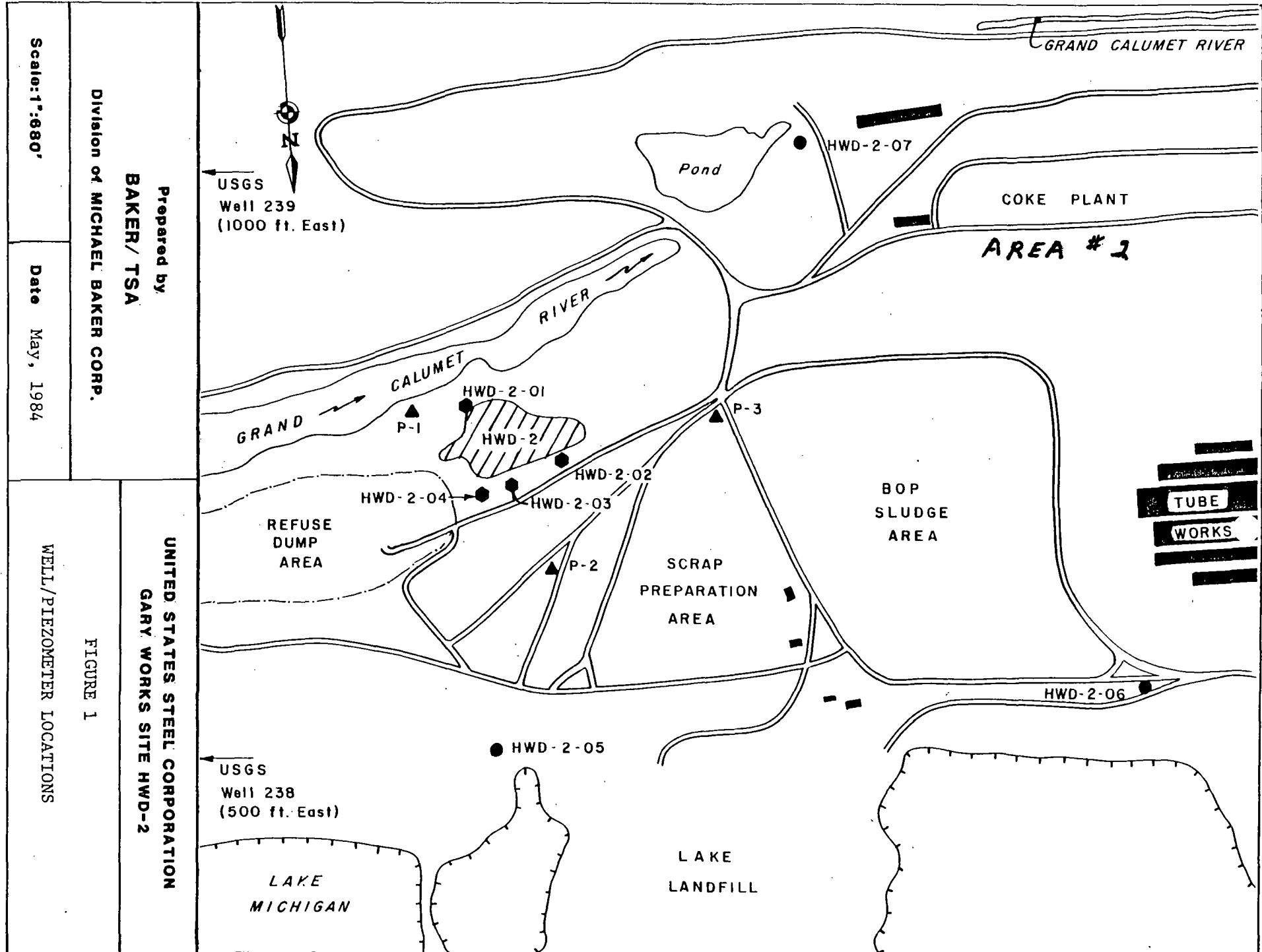
INTRODUCTION

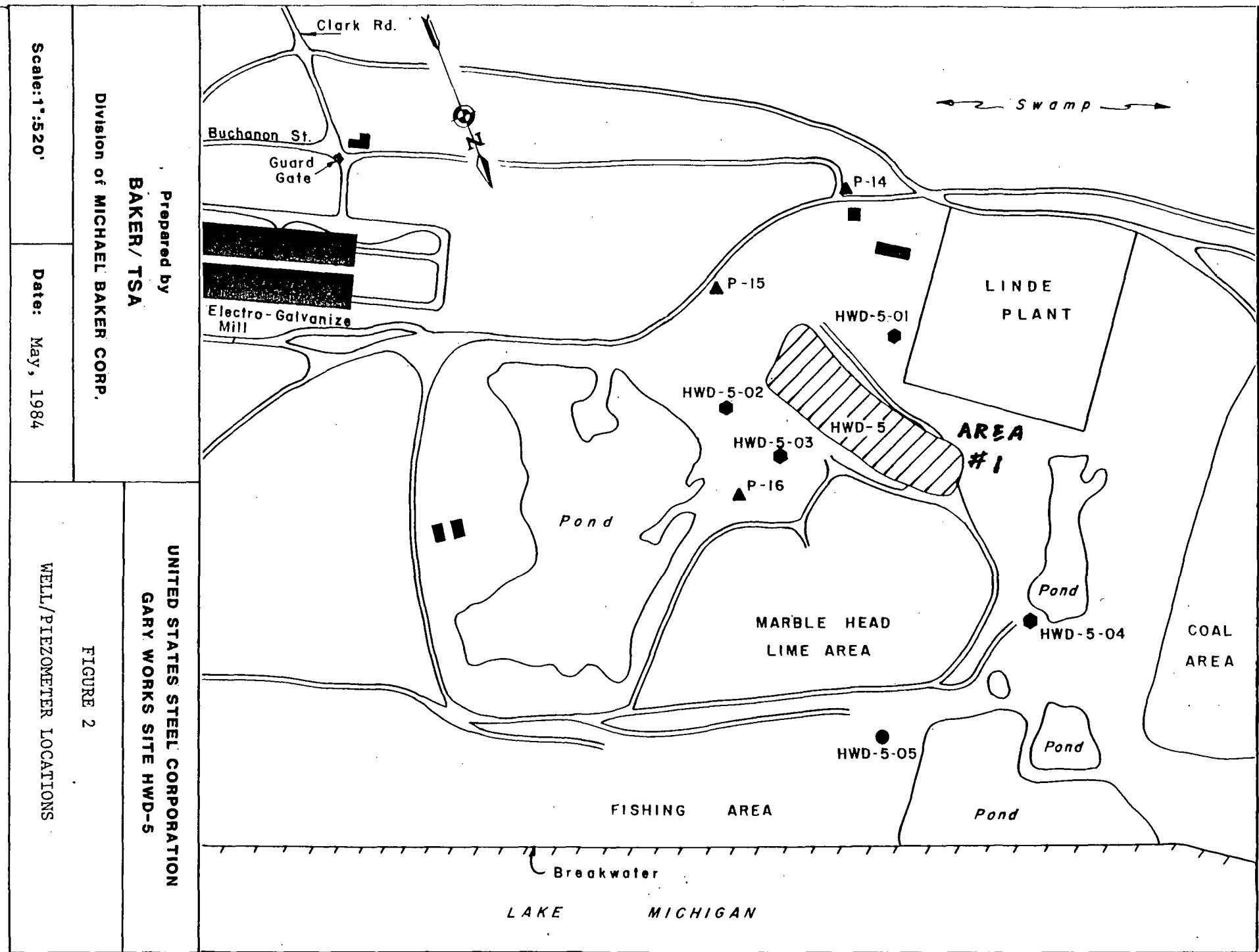
Because of complex groundwater flow patterns in the vicinity of Gary Works waste management sites, a detailed study of groundwater flow was undertaken by the Baker/TSA Division of Michael Baker, Jr., Inc., for U.S. Steel Corporation. The object of the study was to evaluate the adequacy of the existing monitoring system with respect to well placement (e.g., upgradient/downgradient relationships). A study approach was presented verbally to Indiana State Board of Health (IBOH) personnel on July 27, 1983 then was and submitted formally in a August 1, 1983 report entitled, "Report on Groundwater Monitoring Activities at Gary Works". This report identified site specific problems with the original monitoring well network and plans to resolve these problems.

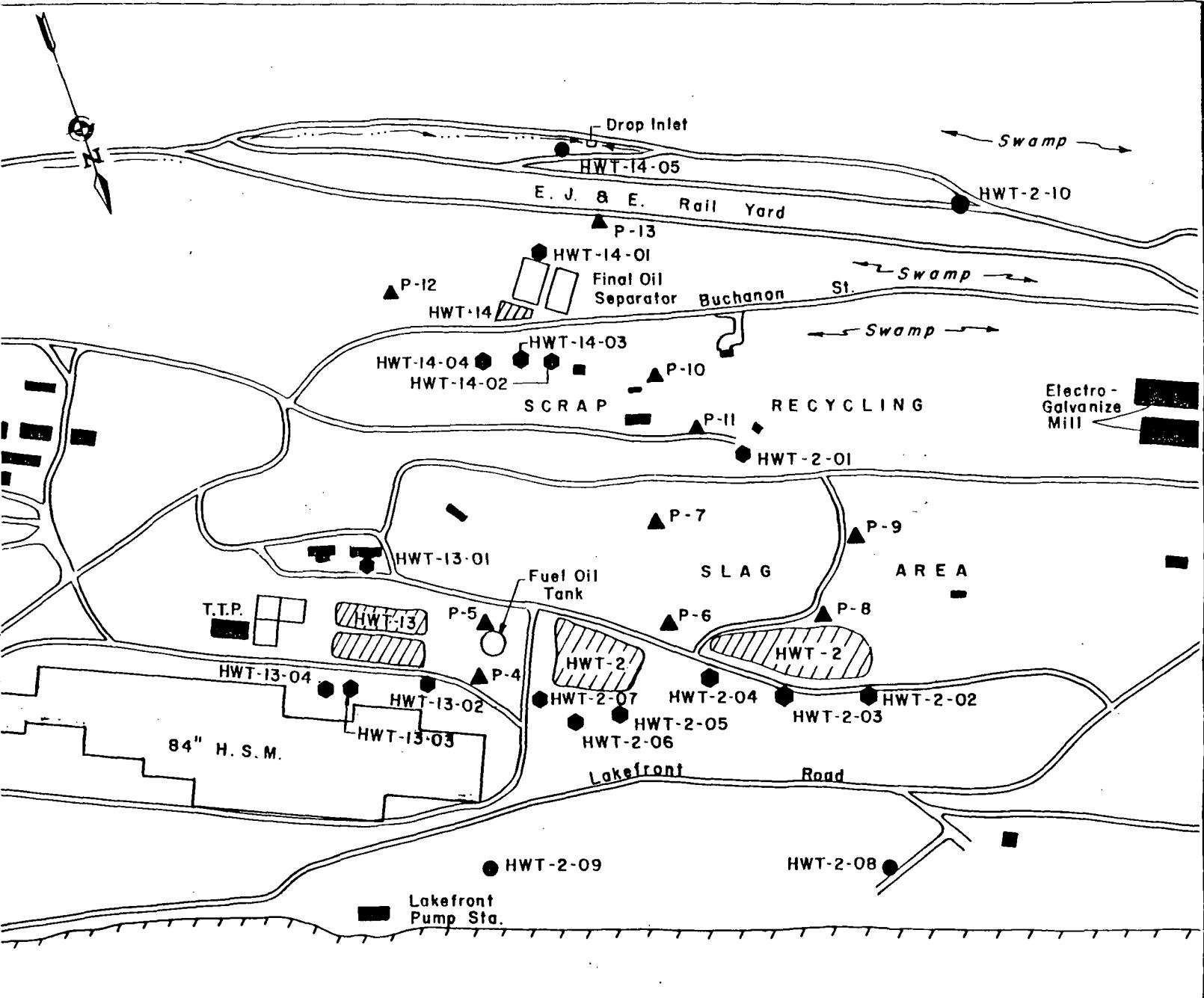
A groundwater flow investigation was initiated in April, 1984, following receipt of comments on the planned investigation from IBOH in late February, 1984, and discussion of these comments in mid-March, 1984. Sixteen piezometers located close to the management waste sites and several staff gauges to monitor local surface water elevations were installed according to the plan. In addition, eight other small diameter piezometers/wells, located at greater distances away from the sites, were installed at the same time to further aid in determining groundwater flow relationships and allow more widespread groundwater quality characterization. These new wells have been referred to as perimeter wells to date. Figures 1, 2, and 3 show the locations of all original RCRA wells and newly installed piezometers/wells (the original wells are designated by hexagons, whereas, the piezometers and perimeter wells are shown as triangles and circles, respectively). Boring logs and construction details of each new piezometer/well are included in Appendix A.

Groundwater level (water table) measurements during this investigation have been collected at intervals of approximately one month apart for a period of one year beginning in April, 1984. Thirteen sets of data were collected. Measurements were obtained each time at the original RCRA wells, the new piezometers/wells, and at staff gauges

located near significant ponds, lagoons, the Grand Calumet River, and Lake Michigan. Generally, all measurements were obtained on the same day. Summaries of these data are included in Appendix B.







Prepared by

BAKER/ TSA

Division of MICHAEL BAKER CORP.

Scale: 1" : 665'

Date: May, 1984

UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14

FIGURE 3

WELL/PIEZOMETER LOCATIONS

GROUNDWATER FLOW INTERPRETATIONS

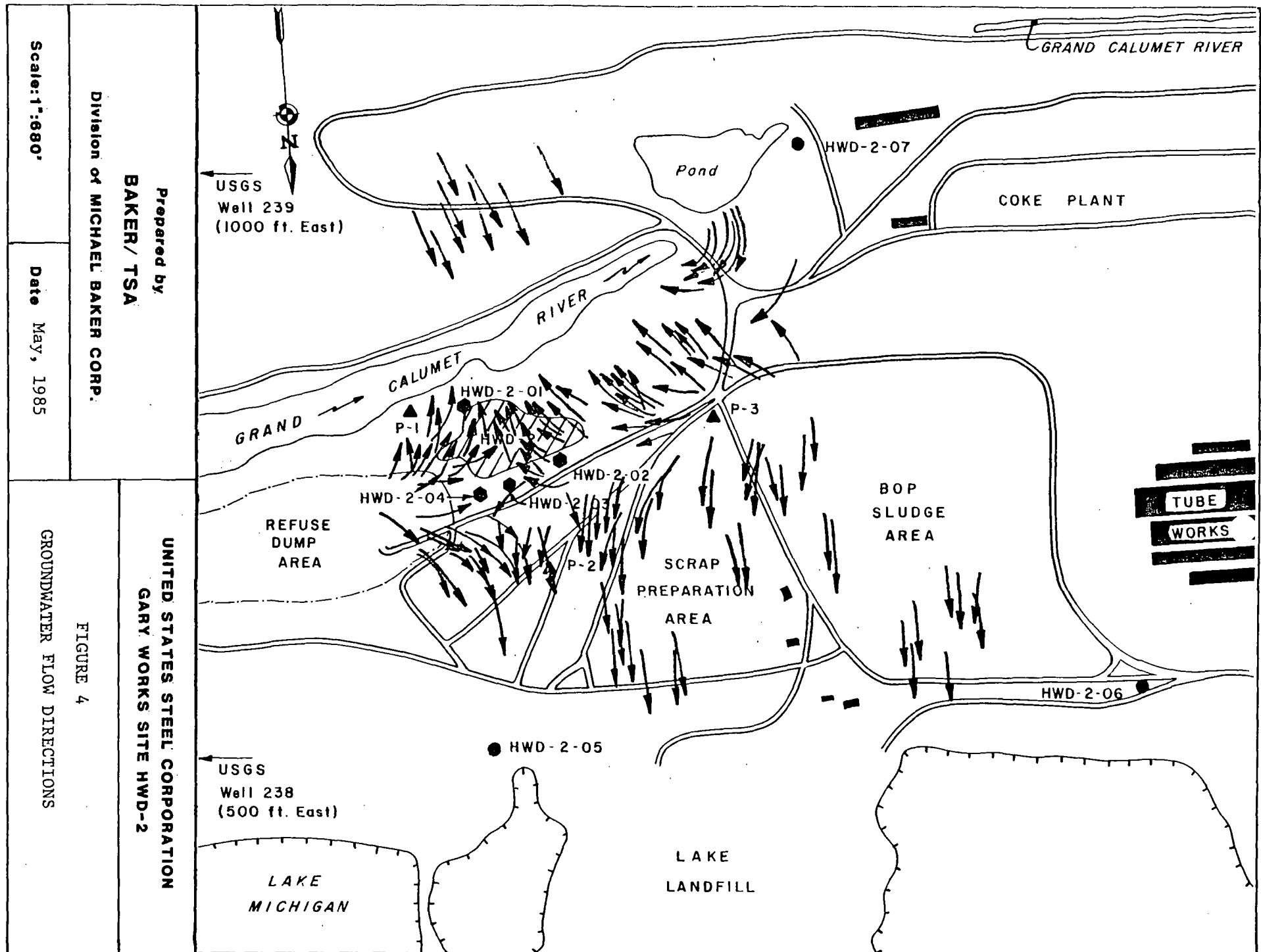
Individual contour maps of equal groundwater levels (equipotential contours) have been prepared for each set of data obtained during this investigation. These contour maps are grouped by site in Appendix C. The applicable data set in Appendix B should be used to determine specific point elevations used in preparing the maps, if desired. Groundwater flow directions are indicated on each map in Appendix C by arrows drawn perpendicular to the groundwater contours in the direction of decreasing hydraulic head. Specific observations for each site are given in the following sections.

SITE HWD-2

Groundwater flow directions observed during the one year measurement period in the vicinity of site HWD-2, Tar Sludge Impoundment, are summarized on Figure 4. This map (similar to site maps in later sections) was prepared by combining information from all thirteen individual maps in Appendix C, to simplify data presentation and illustrate variations, if any.

Figure 4 shows that the direction of groundwater flow was very consistent throughout the one year observation period. Contrary to original interpretations, existing well HWD-2-01 is situated downgradient from the impoundment rather than upgradient. Additionally, wells HWD-2-02, HWD-2-03, and HWD-2-04 are situated upgradient from the site instead of downgradient as originally interpreted. Groundwater discharges locally to both the Grand Calumet River and Lake Michigan. It had been originally assumed that all groundwater flow was strictly toward Lake Michigan. Groundwater recharge from the Grand Calumet River was not indicated by any data collected during the study. Additionally, fluctuating recharge/discharge at the Lake Michigan shoreline was not indicated.

Based upon data collected during this investigation, it is concluded that the original well designations (upgradient/downgradient) are



opposite to the true situation. Statistical analyses previously completed and submitted to IBOH are invalid since correct upgradient/downgradient conditions were not analyzed. It is recommended that groundwater quality at wells HWD-2-02 and HWD-2-04 be used as an indication of background conditions with regard to site HWD-2.

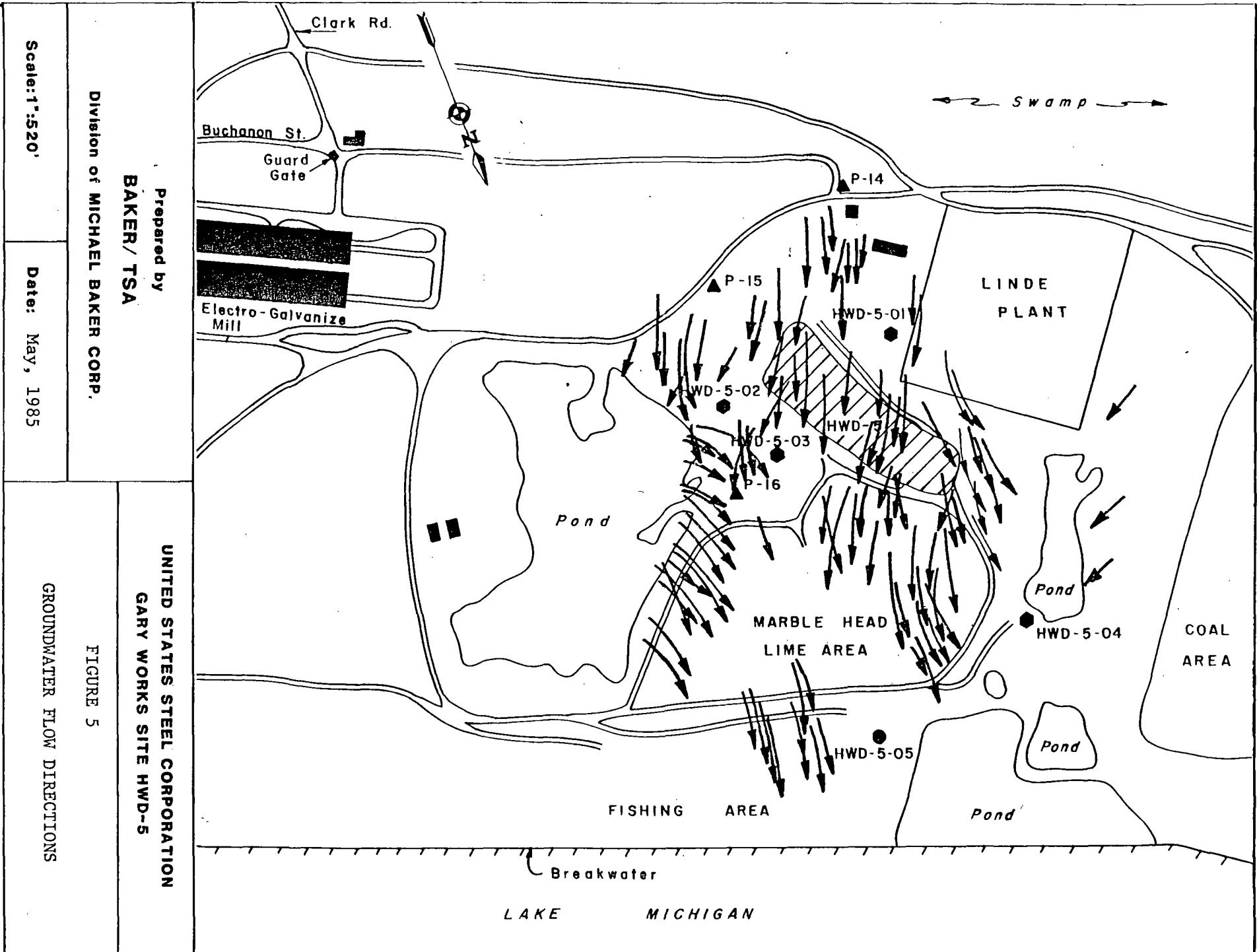
SITE HWD-5

Figure 5 depicts groundwater flow directions observed in the vicinity of site HWD-5, Hazardous Waste Landfill, during the entire one year observation period. Generally groundwater flow is northward in the direction of Lake Michigan, but is affected slightly by a small valley west of the site and a pond on the east. Groundwater discharges to the valley on the west, skewing the local direction of groundwater flow slightly westward. Apparently, groundwater recharges the south side of the pond immediately east of site HWD-5. However, the pond serves as a groundwater recharge point further to the north, thereby skewing groundwater flow westward.

Well HWD-5-01 is situated upgradient from site HWD-5 as originally designated. Wells HWD-5-03 and HWD-5-04 also are located downgradient as originally designated. However, well HWD-5-02 is located laterally from site HWD-5. This well might be considered as reflecting site upgradient conditions rather than downgradient. Additionally, this well monitors local thick background slag pile influences better than well HWD-5-01. Slag thickness at well HWD-5-01 is 13.0 feet, whereas the thickness is more than double at the other site wells.

New piezometer/well HWD-5-05 is located downgradient of the site closer to Lake Michigan. New monitoring point HWT-2-10 is located southeast of the Electro-Galvanize Mill (see Figure 6), upgradient of site HWD-5, and can be considered to reflect general background conditions with respect to Gary Works.

The groundwater flow study data indicate that wells HWD-5-01, HWD-5-02 and new well HWT-2-10 should be used to define background



conditions with respect to site HWD-5. The present designation of well HWD-5-02 as upgradient is opposite from the original designation. Statistical analyses previously submitted do not adequately take background variability into account and should be considered to be invalid.

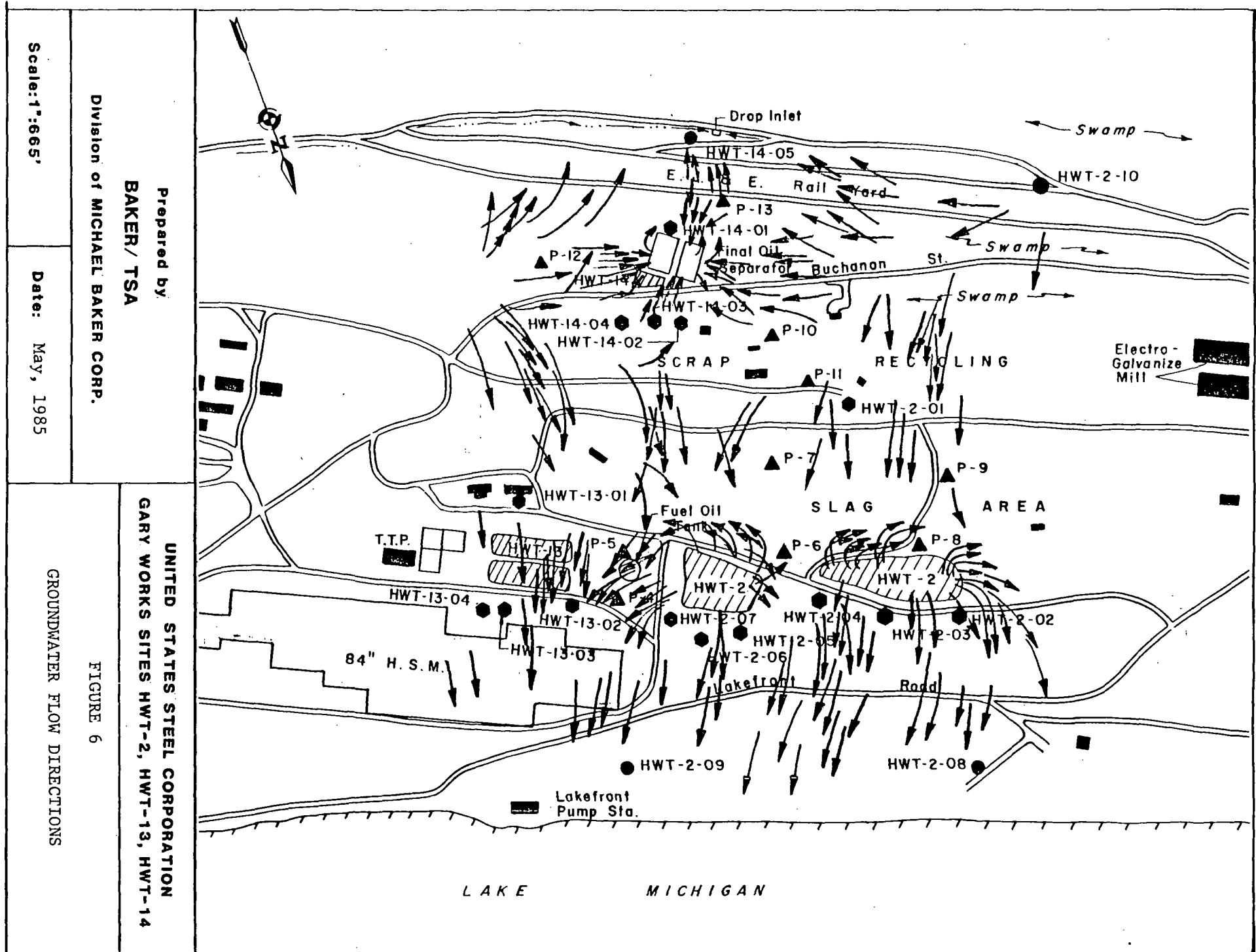
SITE HWT-2

Figure 6 depicts groundwater flow relationships observed during the year long measurement period in the vicinity of site HWT-2, Neutralized Waste Acid Lagoons, as well as sites HWT-13 and HWT-14. According to available data the original well designations are technically correct wherein well HWT-2-01 is located upgradient from site HWT-2 and wells HWT-2-02 through HWT-2-07 are situated downgradient. Upgradient well HWT-2-01 is not affected by local groundwater mounding conditions around the site HWT-2 lagoons as potentially indicated by data available prior to this study. However, this well is situated so far upgradient that it does not adequately monitor background influences of the large slag pile situated closer to the site. Mounding of groundwater conditions beneath the lagoons causes local radial flow of groundwater from the lagoons, whereas the normal groundwater flow pattern apparently is northward to Lake Michigan.

Site HWT-2 occupies a substantial area. Upgradient well HWT-2-01 alone is considered to be insufficient to determine background conditions for both site lagoons. Therefore, it is recommended that wells HWT-2-01, HWT-13-01, HWT-14-02 and new well HWT-2-10 be used collectively to define background conditions. These wells all are located hydraulically upgradient from site HWT-2. Previous statistical analyses should be considered invalid since background was not adequately characterized.

SITE HWT-13

Figure 6 also shows groundwater flow patterns in the vicinity of site HWT-13, Terminal Treatment Plant Sludge Drying Beds. The direction of groundwater flow near HWT-13 is consistently northward except along



the west edge where flow is influenced by radial discharge from the eastern site HWT-2 lagoon. Mounding of groundwater conditions beneath the HWT-13 drying beds is not indicated by any monitoring data.

The original well designations for this site apparently are correct wherein well HWT-13-01 is hydraulically upgradient and wells HWT-13-02 through HWT-13-04 are downgradient. However, well HWT-13-01 is considered inadequate alone to demonstrate background conditions based upon observed groundwater flow patterns and available groundwater quality data.

Statistical analyses of groundwater data for downgradient well HWT-13-02 should take into account background conditions as defined collectively by well HWT-13-01, the site HWT-2 downgradient wells HWT-2-06 and HWT-2-07, and well HWT-14-02. However, downgradient wells HWT-13-03 and HWT-13-04 should be evaluated separately using wells HWT-13-01 and HWT-14-02 to define background conditions, since the background influence of site HWT-2 apparently is not applicable to these two downgradient wells. Previous statistical analyses using only data for well HWT-13-01 as upgradient are considered to be invalid.

SITE HWT-14

As depicted in Figure 6, the groundwater flow study data show that the final oil separator lagoons act as local groundwater drawdown points. These lagoons are unlined and constructed in the local sand materials. Only once during the investigation was reversed local flow indicated.

As a result of these findings it is concluded that site HWT-14, Final Oil Separator Lagoons Sludge Drying Beds, presently has no downgradient monitoring wells. All statistical analyses previously completed are invalid and all wells HWT-14-01 through HWT-14-04 should be considered to be upgradient of the site. Downgradient groundwater conditions for site HWT-14 cannot be assessed since there is no downgradient with respect to the site.

GROUNDWATER QUALITY COMPARISONS

Statistical comparisons of indicator parameter data have been recomputed based upon the findings presented in the previous section of this report and are included herein. The statistical comparisons have been completed using Cochran's Approximation to the Behrens-Fisher Student's t-test at the 0.01 level of significance.

The Part 265 - Subpart F regulations require statistical comparison of downgradient well quality, as measured during each semiannual sampling for each facility, with composite background quality observed at the respective upgradient well during the first year of monitoring. However, because some first year (1981, 1982) monitoring data are questionable and because significant time has lapsed since completion of the first year activities, with some changes in quality being apparent, "background" quality for the new statistical tests has been taken from data for the 1983 and 1984 monitoring activities. These two years of activity include a total of six sampling events due to the required regular semiannual sampling events as well as separate split samplings conducted with IBOH once each year. It is believed that the background data from these six sampling events collected over the two year period are a suitable substitute for one year quarterly background data. Downgradient well groundwater quality data for the statistical test results contained herein are taken from the 1984 annual sampling event completed in late October because it is the most recent data set available. Sampling results for this event are included in Appendix D. Following is a discussion of statistical test results and other observations for specific sites at Gary Works.

SITE HWD-2

Table 1 contains the results of a statistical data comparison for site HWD-2, Tar Sludge Impoundment. For this comparison, data from upgradient wells HWD-2-02 and HWD-2-04 have been used as background. According to the results of the groundwater flow investigation (see

TABLE I

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 21 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 03 YEAR: 84

(+)HWD2-03 (UPGD)	(+)HWD2-04 (UPGD)	*
(+)HWD2-02 (UPGD)	*****	***
**	*	*
**	*	*
*	HWD-2	*
*	*	*
*****	*****	*
	(+)HWD2-01 (DWGD)	

*----- GARY WORKS * HWD-2 -----*

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STAT. SIGNIF. CHANGE
PH	SU	HWD2-02	7.37	0.0478	HWD2-01	10.2	0.	89.783782	2.685	YES
		HWD2-04			HWD2-02	7.	0.	11.619078	2.685	YES
					HWD2-03	7.65	0.0033	6.62472	4.12279	YES
					HWD2-04	7.52	0.0092	2.761452	4.88498	NO
SPEC COND	UMHOS/CM	HWD2-02	1188.75	272684.	HWD2-01	1207.5	1558.3333	0.240652	2.544889	NO
		HWD2-04			HWD2-02	1812.5	225.	8.234974	2.428913	YES
					HWD2-03	540.	0.	-8.607332	2.408	NO
					HWD2-04	852.5	25.	-4.458766	2.410344	NO
TOC	MG/L	HWD2-02	48.47	350.2122	HWD2-01	22.32	0.1692	-8.365951	2.447103	NO
		HWD2-04			HWD2-02	83.25	0.5967	11.064922	2.469759	YES
					HWD2-03	21.07	1.8092	-8.587524	2.531431	NO
					HWD2-04	27.6	0.2867	-6.668348	2.453379	NO
TOX	UG/L	HWD2-02	*20.33	*83.8299	HWD2-01	*4.87	*15.9936	-6.079602	3.741515	NO
		HWD2-04			HWD2-02	*21.03	*95.8499	0.135232	4.345455	NO
					HWD2-03	*6.19	*11.1778	-6.166221	3.558524	NO
					HWD2-04	*4.93	*30.3419	-4.858406	4.026839	NO

0.01 LEVEL OF SIGNIFICANCE USED

TABLE 1

EXCEPTION REPORT (ER-1)

REPORT DATE: 21 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 03 YEAR: 84

(+)HWD2-03 (UPGD)	(+)HWD2-04 (UPGD)	*
*****		***
(+)HWD2-02 (UPGD)	**	* *
	**	*
		NORTH
	HWD-2	*
	*	*
	*****	*
	(+)HWD2-01 (DWGD)	

----- GARY WORKS * HWD-2 -----

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL MEAN	BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWD2-01 DOWNGRADIENT	10/22/84	PH	SU	7.37	0.0478	10.2	0.
HWD2-02 UPGRADE	10/22/84	PH	SU	7.37	0.0478	7.	0.
HWD2-03 UPGRADE	10/22/84	PH	SU	7.37	0.0478	7.65	0.0033
HWD2-02 UPGRADE	10/22/84	SPEC COND	UMHOS/CM	1188.75	272684.	1812.5	225.
HWD2-02 UPGRADE	10/22/84	TOC	MG/L	48.47	350.2122	83.25	0.5967

0.01 LEVEL OF SIGNIFICANCE USED

Figure 4) only well HWD-2-01 presently is situated downgradient of the facility.

A statistically significant higher pH at downgradient well HWD-2-01 compared to background has been calculated from the test results. No other statistical differences for other indicator parameters were noted for this well. Statistical differences for pH, specific conductance, and TOC have been calculated for wells upgradient of the facility.

Although not required by interim status regulations, monitoring of the Interim Primary Drinking Water Standard inorganic parameters has been carried out regularly at HWD-2. In addition, base neutral extractable priority pollutant organics were analyzed, primarily for naphthalene, during the April 1983, October 1983 and April 1984 sampling events. Naphthalene and phenols are the listed parameters of concern with respect to materials disposed at this facility. Cyanide also has been monitored regularly. Volatile organic priority pollutants were analyzed during the October 1984 sampling.

As shown by the October, 1984 monitoring data summary for site HWD-2 (Appendix D), drinking water inorganic parameter standards were not exceeded. Minor exceedances of standards for nitrate, selenium and lead, due to upgradient conditions, were measured previously. One exceedance of arsenic at downgradient well HWD-2-01 was noted during the first year of monitoring. Base neutral parameters (including naphthalene) were never detected at any site HWD-2 well. The maximum phenol concentration measured at downgradient well HWD-2-01 is 0.098 mg/l compared to the EPA Ambient Water Quality Criterion of 3.5 mg/l for the protection of human health. The maximum cyanide concentration measured at downgradient well HWD-2-01 is 0.12 mg/l, compared to the 1962 U.S. Public Health Service drinking water standard of 0.2 mg/l.

A benzene concentration of 18 ug/l was reported for the October 1984 sampling of downgradient well HWD-2-01. No other volatile organics were detected at this well or at any of the upgradient wells.

SITE HWD-5

Table 2 contains results of the statistical test of indicator data for site HWD-5, Hazardous Waste Landfill. For this comparison, data from wells HWD-5-01, HWD-5-02, and HWT-2-10 have been used to define background conditions. According to the results of the groundwater flow study (see Figure 5) wells HWD-5-03 and HWD-5-04 are situated downgradient of the site.

Statistically significant increased pH and specific conductance are indicated on Table 2 at downgradient wells HWD-5-03 and HWD-5-04. However, increased pH and specific conductance also are indicated at upgradient well HWD-5-02. It is believed that slag background influences, only measured appreciably at upgradient well HWD-5-02, are primarily or wholly responsible for the high pH and specific conductance measured downgradient of site HWD-5.

Statistically significant increased TOC and TOX concentrations are reported for downgradient well HWD-5-03. Equally high or higher concentrations of these parameters have been measured at site upgradient wells, but are not sufficiently reflected in background as calculated for the statistical test. Therefore, these indications of statistical difference are questionable.

In addition to parameters required during interim monitoring, Gary Works has regularly monitored the Interim Primary Drinking Water Standards inorganic parameters and nickel. Volatile organic priority pollutants also were analyzed during the October, 1984 sampling event. Hexavalent chromium, lead and cadmium are the listed constituents of concern with regard to wastes disposed at HWD-5.

Drinking water standard exceedances for lead and nitrate at downgradient wells were reported only during the first year of monitoring (1981, 1982). No exceedances have since been measured. A toluene concentration of 9 ug/l was reported for the October, 1984 sampling of downgradient well HWD-5-03. Downgradient increases of phenols,

TABLE 2

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 23 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 84

(+)	HWD5-04 (DWGD)	HWD5-03 (+)(DWGD)	HWD5-02 (+)(UPGD)	*
*****	*****	*****	*****	***
*	*	*	*	*
*	*	*	*	*
*	HWD-5	*	*	NORTH
*****	*****	*****	*****	*****
			(+)	HWD5-01 (UPGD)

				| NO. 1
				| E.G.L.
				| MILL

GARY WORKS * HWD-5 -----*

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STATS. SIGNIF. CHANGE
PH	SU	HWD5-01	9.04	3.0522	HWD5-01	7.87	0.0025	5.11917	2.700584	YES
		HWD5-02			HWD5-02	11.37	0.0025	10.304441	2.700584	YES
		HWT2-10			HWD5-03	11.8	0.	12.251887	2.662	YES
					HWD5-04	11.7	0.	11.808513	2.662	YES
					HWT2-10	7.3	0.	7.699919	2.662	YES
SPEC COND	UMHOS/CM	HWD5-01	1086.	137292.	HWD5-01	917.5	25.	-3.517712	2.396857	NO
		HWD5-02			HWD5-02	1505.	33.3333	8.743339	2.398802	YES
		HWT2-10			HWD5-03	2027.5	1091.6667	18.603958	2.620107	YES
					HWD5-04	1757.5	25.	14.018657	2.396857	YES
					HWT2-10	807.5	25.	-5.814141	2.396857	NO
TOC	MG/L	HWD5-01	29.79	542.8043	HWD5-01	30.8	2.86	0.263896	2.531245	NO
		HWD5-02			HWD5-02	6.75	0.0167	-6.175012	2.428632	NO
		HWT2-10			HWD5-03	53.	0.02	6.220112	2.428759	YES
					HWD5-04	7.47	0.0025	-5.981468	2.428095	NO
					HWT2-10	83.		NA	NA	***
TOX	UG/L	HWD5-01	*11.49	*69.9617	HWD5-01	*5.67	*1.5463	-3.859321	2.791641	NO
		HWD5-02			HWD5-02	*5.83	*13.9709	-2.44171	3.800967	NO
		HWT2-10			HWD5-03	38.25	77.5833	5.799707	4.353839	YES
					HWD5-04	*9.65	*65.2634	-0.432637	4.322178	NO
					HWT2-10	*3.7		NA	NA	***

0.01 LEVEL OF SIGNIFICANCE USED

NA - NOT APPLICABLE

***STATISTICAL EVALUATION NOT POSSIBLE SINCE ONLY ONE COMPARISON VALUE AVAILABLE

TABLE 2

EXCEPTION REPORT (ER-1)

REPORT DATE: 23 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWD-5
 SAMPLING ROUND: 03 YEAR: 84

(+)	HWD5-04 (DWGD)	HWD5-03 (+)(DWGD)	HWD5-02 (+)(UPGD)	*
*****	*****	*****	*****	***
*	*	*	*	*
*	*	*	*	*
*	*	HWD-5	*	NORTH
*****	*****	*****	*****	*****
			(+)HWD5-01 (UPGD)	

				NO. 1
				E.C.L.
				MILL

*----- GARY WORKS * HWD-5 -----*

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL MEAN	BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWD5-01	UPGRADIENT	10/25/84 PH	SU	9.04	3.0522	7.87	0.0025
HWD5-02	UPGRADIENT	10/25/84 PH	SU	9.04	3.0522	11.37	0.0025
HWD5-03	DOWNGRADIENT	10/25/84 PH	SU	9.04	3.0522	11.8	0.
HWD5-04	DOWNGRADIENT	10/25/84 PH	SU	9.04	3.0522	11.7	0.
HWT2-10	UPGRADIENT	10/24/84 PH	SU	9.04	3.0522	7.3	0.
HWD5-02	UPGRADIENT	10/25/84 SPEC COND	UMHOS/CM	1086.	137292.	1505.	33.3333
HWD5-03	DOWNGRADIENT	10/25/84 SPEC COND	UMHOS/CM	1086.	137292.	2027.5	1091.6667
HWD5-04	DOWNGRADIENT	10/25/84 SPEC COND	UMHOS/CM	1086.	137292.	1757.5	25.
HWD5-03	DOWNGRADIENT	10/25/84 TOC	MG/L	29.79	542.8043	53.	0.02
HWD5-03	DOWNGRADIENT	10/25/84 TOX	UG/L	*11.49	*69.9617	38.25	77.5833

0.01 LEVEL OF SIGNIFICANCE USED

chloride, sodium and arsenic have been noted. Phenols levels have been well below EPA's Water Quality Criterion for the protection of public health of 3.5 mg/l except for one period during the first year of monitoring. Arsenic levels are only slightly elevated and are well below the primary drinking water standard.

New well HWD-5-05, situated further downgradient of site HWD-5 near Lake Michigan, has been sampled several times recently. Available data are included in Appendix D. No exceedances of Interim Primary Drinking Water Standards for inorganic parameters have occurred at this well. Volatile organic parameters have not been detected. Levels of pH and specific conductance are elevated as at the wells situated closer to site HWD-5, but concentrations of TOC and TOX are low.

SITE HWT-2

Statistical analyses for site HWT-2, Neutralized Waste Acid Lagoons, are summarized on Tables 3 and 4. Data for upgradient site wells only are compared to background on Table 3, whereas Table 4 contains comparisons of downgradient well quality to background. Data from wells HWT-2-01, HWT-13-01, HWT-14-02 and HWT-2-10 were used to define background conditions.

Statistically significant increased pH is shown for wells downgradient of the western lagoon, whereas primarily decreased pH is shown downgradient of the eastern lagoon. Statistically significant increased specific conductance values are noted at all downgradient site wells. No statistically significant differences were determined for TOC or TOX.

Locations of the upgradient wells used to define background for site HWT-2 are considered to be unsatisfactory to adequately monitor background influences of the slag pile located north of well HWT-2-01. Data from upgradient well HWT-13-01 (high pH and elevated conductivity) is the only measure of this influence and yet this well is not situated downgradient of the most significant accumulation of slag. Statistical differences from background for pH and specific conductance at several

TABLE 3

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 23 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STATS. SIGNIF. CHANGE
		HWT2-01	8.14	1.8926	HWT2-01	7.35	0.0033	5.194798	2.750312	YES
PH	SU	HWT2-10			HWT2-10	7.3	0.	5.623096	2.636	YES
		HWT13-01			HWT13-01	9.6	0.	9.699642	2.636	YES
		HWT14-02			HWT14-02	7.3	0.	5.623096	2.636	YES
SPEC COND	UMHOS/CM	HWT2-01	877.35	38453.8642	HWT2-01	902.5	91.6667	1.140601	2.474231	NO
		HWT2-10			HWT2-10	807.5	25.	-3.223457	2.400871	NO
		HWT13-01			HWT13-01	1500.	3900.	14.827959	5.758209	YES
		HWT14-02			HWT14-02	1097.5	91.6667	9.984013	2.474231	YES
TOC	MG/L	HWT2-01	41.7	812.6373	HWT2-01	66.4	12.4533	6.052514	2.792846	YES
		HWT2-10			HWT2-10	83.	NA	NA	NA	***
		HWT13-01			HWT13-01	4.42	0.0025	-10.127627	2.391099	NO
		HWT14-02			HWT14-02	71.42	1.2825	7.98367	2.44072	YES
TOX	UG/L	HWT2-01	*14.74	*142.0569	HWT2-01	*5.05	*11.9498	-4.070937	3.528507	NO
		HWT2-10			HWT2-10	*2.41	NA	NA	NA	***
		HWT13-01			HWT13-01	*3.25	*5.0597	-5.785399	3.08645	NO
		HWT14-02			HWT14-02	*5.18	*4.8951	-4.838197	3.071118	NO

0.01 LEVEL OF SIGNIFICANCE USED

NA - NOT APPLICABLE

***STATISTICAL EVALUATION NOT POSSIBLE SINCE ONLY ONE COMPARISON VALUE AVAILABLE

TABLE 3

EXCEPTION REPORT (ER-1)

REPORT DATE: 23 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 03 YEAR: 84

HWT2-02 (DWGD) (+)	HWT2-03 (DWGD) (+)	HWT2-04 (DWGD) (+)	HWT2-05 (DWGD) (+)	HWT2-06, (DWGD) (+)	07 (DWGD) (+)

*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*	*	*	*	*	*

(+)HWT2-01 (UPGD)		-----|		-----|	
		HWT-14		NORTH	
-----| GARY WORKS * HWT-2 -----|					

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL MEAN	BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWT2-01 UPGRAIENT	10/24/84	PH	SU	8.14	1.8926	7.35	0.0033
HWT2-10 UPGRAIENT	10/24/84	PH	SU	8.14	1.8926	7.3	0.
HWT13-01 UPGRAIENT	10/23/84	PH	SU	8.14	1.8926	9.6	0.
HWT14-02 UPGRAIENT	10/24/84	PH	SU	8.14	1.8926	7.3	0.
HWT13-01 UPGRAIENT	10/23/84	SPEC COND	UMHOS/CM	877.35	38453.8642	1500.	3900.
HWT14-02 UPGRAIENT	10/24/84	SPEC COND	UMHOS/CM	877.35	38453.8642	1097.5	91.6667
HWT2-01 UPGRAIENT	10/24/84	TOC	MG/L	41.7	812.6373	66.4	12.4533
HWT14-02 UPGRAIENT	10/24/84	TOC	MG/L	41.7	812.6373	71.42	1.2825

22 0.01 LEVEL OF SIGNIFICANCE USED

TABLE 4

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 21 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 03 YEAR: 84

IHWT2-02	HWT2-03	HWT2-04	HWT2-05	HWT2-06	07
(DWGD)	(DWGD)	(DWGD)	(DWGD)	(DWGD)	(DWGD)
(+)	(+)	(+)	(+)	(+)	(+)
*****	*****	*****	*****	*****	*****
*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*	*	*	*	*	*
*****	*****	*****	*****	*****	*****
(+)HWT2-01	(UPGD)				
		HWT-14			
GARY WORKS	*	HWT-2			

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STATS. SIGNIF. CHANGE
PH	SU	HWT2-01	8.14	1.8926	HWT2-02	11.42	0.0025	21.560904	2.722505	YES
		HWT2-10			HWT2-03	11.65	0.0033	22.936552	2.750312	YES
		HWT13-01			HWT2-04	11.5	0.02	20.225711	3.218068	YES
		HWT14-02			HWT2-05	6.6	0.0067	9.925966	2.85675	YES
					HWT2-06	6.85	0.0033	8.465885	2.750312	YES
					HWT2-07	9.	0.	5.702406	2.636	YES
SPEC COND	UMHOS/CM	HWT2-01	877.35	38453.8642	HWT2-02	6097.5	825.	201.739837	3.040145	YES
		HWT2-10			HWT2-03	11250.	10000.	190.546936	4.201886	YES
		HWT13-01			HWT2-04	10010.	0.	424.293027	2.372	YES
		HWT14-02			HWT2-05	8357.5	4225.	191.890249	3.879688	YES
					HWT2-06	7522.5	11558.3333	114.761346	4.241289	YES
					HWT2-07	5797.5	1491.6667	170.144964	3.339281	YES
TOC	MG/L	HWT2-01	41.7	812.6373	HWT2-02	10.7	0.0467	-8.41917	2.39285	NO
		HWT2-10			HWT2-03	7.17	0.2692	-9.357404	2.401629	NO
		HWT13-01			HWT2-04	8.82	0.0225	-8.930423	2.391893	NO
		HWT14-02			HWT2-05	18.	0.6467	-6.401124	2.416361	NO
					HWT2-06	7.7	0.1467	-9.225487	2.396805	NO
					HWT2-07	6.42	0.0225	-9.582424	2.391893	NO
TOX	UG/L	HWT2-01	*14.74	*142.0569	HWT2-02	28.5	133.6667	2.290345	4.382024	NO
		HWT2-10			HWT2-03	29.75	391.5833	1.496751	4.483943	NO
		HWT13-01			HWT2-04	*37.45	*694.9037	1.710169	4.50847	NO
		HWT14-02			HWT2-05	*5.72	*7.75	-4.196182	3.298299	NO
					HWT2-06	234.75	17203.5833	3.353735	4.539667	NO
					HWT2-07	*7.29	*11.1974	-3.180746	3.493755	NO

0.01 LEVEL OF SIGNIFICANCE USED

TABLE 4

EXCEPTION REPORT (ER-1)

REPORT DATE: 21 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWT2-02	DOWNGRADIENT 10/24/84	PH	SU	8.14	1.8926	11.42	0.0025
HWT2-03	DOWNGRADIENT 10/24/84	PH	SU	8.14	1.8926	11.65	0.0033
HWT2-04	DOWNGRADIENT 10/24/84	PH	SU	8.14	1.8926	11.5	0.02
HWT2-05	DOWNGRADIENT 10/23/84	PH	SU	8.14	1.8926	6.6	0.0067
HWT2-06	DOWNGRADIENT 10/23/84	PH	SU	8.14	1.8926	6.85	0.0033
HWT2-07	DOWNGRADIENT 10/23/84	PH	SU	8.14	1.8926	9.	0.
HWT2-02	DOWNGRADIENT 10/24/84	SPEC COND	UMHOS/CM	877.35	38453.8642	6097.5	825.
HWT2-03	DOWNGRADIENT 10/24/84	SPEC COND	UMHOS/CM	877.35	38453.8642	11250.	10000.
HWT2-04	DOWNGRADIENT 10/24/84	SPEC COND	UMHOS/CM	877.35	38453.8642	10010.	0.
HWT2-05	DOWNGRADIENT 10/23/84	SPEC COND	UMHOS/CM	877.35	38453.8642	8357.5	4225.
HWT2-06	DOWNGRADIENT 10/23/84	SPEC COND	UMHOS/CM	877.35	38453.8642	7522.5	11558.3333
HWT2-07	DOWNGRADIENT 10/23/84	SPEC COND	UMHOS/CM	877.35	38453.8642	5797.5	1491.6667

0.01 LEVEL OF SIGNIFICANCE USED

HWT2-02 (DWGD) (+)	HWT2-03 (DWGD) (+)	HWT2-04 (DWGD) (+)	HWT2-05 (DWGD) (+)	HWT2-06, (DWGD) (+)	07 (DWGD) (+)

*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*	*	*	*	*	*

(+)HWT2-01 (UPGD)					NORTH
				HWT-14	

GARY WORKS * HWT-2 -----*					

upgradient wells also indicates this problem in properly defining site background.

Table 5 presents results of recent sampling at piezometers P-7 and P-9 (see Figure 6). These piezometers are located such that they monitor the slag pile influences better than the site HWT-2 upgradient wells without being affected by the site lagoons. The pH and specific conductance values measured, particularly at P-9, indicate that the slag is primarily or wholly responsible for high pH and specific conductance observed downgradient of HWT-2.

Statistically significant increased TOC at upgradient wells HWT-2-01 and HWT-14-02 are indicated by the test results shown on Table 3.

Interim Primary drinking water standard inorganic parameters and nickel have been monitored routinely by Gary Works. In addition, volatile organic constituents were analyzed during the October 1984 sampling. Hexavalent chromium and lead are the listed constituents of concern with regard to wastes placed in site HWT-2.

The October, 1984 monitoring data included in Appendix D for site HWT-2 indicates slight exceedances of primary drinking water standards at downgradient wells for barium, cadmium, fluoride, and selenium. Exceedances for lead and nitrate also have been previously noted. Nitrate exceedances were limited to the first year of monitoring. In addition, downgradient levels of nickel, chromium, chloride, iron, manganese, sodium, sulfate and phenols are slightly elevated. Data included on Table 5 indicates that background conditions (slag) may be responsible for high barium, cadmium, nickel, chloride and sulfate. Volatile organic constituents were not detected at any site HWT-2 well.

Sampling has been conducted several times recently at new piezometers/wells HWT-2-08 and HWT-2-09, situated further downgradient of site HWT-2 near Lake Michigan. Available data are included in Appendix D under Perimeter Wells. No exceedances of primary drinking water

TABLE 5

U.S. STEEL CORPORATION
GARY WORKS
PIEZOMETERS P-7 and P-9 SAMPLING RESULTS

<u>Parameter</u>	<u>Units</u>	<u>Primary Drinking Water</u>	<u>P-7</u>		<u>P-9</u>		
			<u>(841009)</u>	<u>(850115)</u>	<u>(841008)</u>	<u>(850116)</u>	<u>(850117)**</u>
			<u>10/23/84</u>	<u>03/02/85</u>	<u>10/23/84</u>	<u>03/02/85</u>	<u>03/02/85</u>
Arsenic	mg/l	0.05	0.004	<0.01	<0.005*	<0.01	<0.01
Barium	mg/l	1.0	<0.1	<0.50	2.5	0.84	0.93
Cadmium	mg/l	0.01	0.008	<0.02	0.035	<0.02	<0.02
Chromium	mg/l	0.05	<0.01	<0.10	0.02	<0.10	<0.10
Lead	mg/l	0.05	<0.03	<0.1	<0.03	<0.10	<0.10
Mercury	mg/l	0.002	0.0004	<0.0002	0.0002	<0.0002	<0.0002
Selenium	mg/l	0.01	<0.004	<0.0025	<0.04*	<0.0025	<0.0025
Silver	mg/l	0.05	<0.01	<0.05	0.01	<0.05	<0.05
Iron	mg/l		<0.01	<0.01	0.01	0.11	<0.10
Manganese	mg/l		0.35	0.47	0.02	<0.05	<0.05
Nickel	mg/l		<0.03	<0.10	0.14	<0.10	<0.10
Sodium	mg/l		35	32.5	47	45.8	43.7
Ammonia as N	mg/l		0.98	0.90	2.6	1.9	1.8
Carbon, Total Organic	mg/l		19.8	4.3	2.1	5.0	2.8
Chloride	mg/l		61	51	3,800	1,860	1,920
Cyanide, Total	mg/l		<0.005	<0.01	0.007	<0.01	<0.01
Fluoride	mg/l	2.0	0.94	0.74	0.54	0.67	0.76
Halogens, Total Organic	ug/l		<10	<10	154	350	230
Nitrate	mg/l	10.0	0.86	0.20	0.3	0.65	0.20
Phenolics	mg/l		<0.02	<0.01	0.080	0.02	<0.01
Sulfate	mg/l		230	720	220	120	130
pH	SU		8.0	8.1	10.9	11.3	11.2
Specific Conductance	umhos/cm		1,650	1,350	11,100	5,620	5,770
Temperature	C		11.0	9.5	28.5	21.0	21.0
Groundwater Elevation	Ft. MSL		583.88	585.27	583.79	585.20	585.20

*Sample matrix interference prevented use of lower detection limits.

**Duplicate of 850116

Note: 1984 analyses performed by NUS Corporation
1985 analyses performed by Northern Laboratories, Inc.

standards for inorganic parameters have been measured at these wells with the exception of slightly high arsenic. However, plant background arsenic levels (see data for upgradient wells HWT-2-10 and HWT-14-05) are similarly elevated. Volatile organic constituents have not been detected. Levels of pH are slightly high (typical of slag influences), but specific conductance, TOC, and TOX concentrations are low.

SITE HWT-13

Summaries of statistical analyses of indicator parameters for site HWT-13, Terminal Treatment Plant Sludge Drying Beds, are given on Tables 6 and 7. Based on the findings of the groundwater flow study, data from wells HWT-13-01, HWT-2-06, HWT-2-07 and HWT-14-02 were used to define background on Table 6 for statistical evaluation of quality at downgradient well HWT-13-02. However, on Table 7, evaluation of quality at the remaining downgradient wells HWT-13-03 and HWT-13-04 was accomplished using background data from upgradient wells HWT-13-01 and HWT-14-02.

Statistically lower pH values are reported for all downgradient wells but the resulting downgradient pH levels are near neutral. Furthermore, statistically lower pH values also were noted for several upgradient wells.

Statistically significant increased specific conductance was determined at all site HWT-13 downgradient wells. Particularly in the case of well HWT-13-02, it is believed a false statistical difference for specific conductance has been determined. Background levels at wells HWT-2-06 and HWT-2-07 are high, but due to averaging with data from the other upgradient wells the overall background specific conductance calculated in this test is low. This masking by averaging is clearly illustrated by statistically significant increased specific conductances determined for most upgradient wells.

No statistical differences from background for TOC or TOX at downgradient wells are indicated by the results of the statistical

TABLE 6

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 21 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 03 YEAR: 84

		(+)HWT13-03	*
		HWT13-02 (+) (DWGD) (+)HWT13-04 (DWGD)	***
		(DWGD) *****	* * *
		*	*
		*	*
		*	*
		HWT-13	*
		*	*
		*****	NORTH
		(+)HWT13-01	
		(UPGD)	
		HWT-14	
		GARY WORKS	*
		HWT-13	-----

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STATS. SIGNIF. CHANGE
PH	SU	HWT13-01	8.29	2.0059	HWT13-01	9.6	0.	9.079777	2.629	YES
		HWT14-02			HWT13-02	6.55	0.0033	11.787149	2.752186	YES
		HWT2-06			HWT14-02	7.3	0.	6.831451	2.629	YES
		HWT2-07			HWT2-06	6.85	0.0033	9.751957	2.752186	YES
					HWT2-07	9.	0.	4.929022	2.629	YES
SPEC COND	UMHOS/CM	HWT13-01	3624.06	7793138.	HWT13-01	1495.	2700.	-7.441658	2.383936	NO
		HWT14-02			HWT13-02	7972.5	30825.	14.585441	2.554571	YES
		HWT2-06			HWT14-02	1097.5	91.6667	-8.866418	2.366614	NO
		HWT2-07			HWT2-06	7522.5	11558.3333	13.445438	2.440759	YES
					HWT2-07	5797.5	1491.6667	7.610818	2.375946	YES
TOC	MG/L	HWT13-01	21.45	594.6369	HWT13-01	4.42	0.0025	-6.045192	2.37817	NO
		HWT14-02			HWT13-02	13.72	0.0358	-2.741041	2.380441	NO
		HWT2-06			HWT14-02	71.42	1.2825	17.400875	2.462071	YES
		HWT2-07			HWT2-06	7.7	0.1467	-4.871082	2.387957	NO
					HWT2-07	6.42	0.0225	-5.33325	2.379533	NO
TOX	UG/L	HWT13-01	*66.63	*7136.1761	HWT13-01	*5.89	*4.7532	-5.896288	2.407162	NO
		HWT14-02			HWT13-02	*11.92	*99.1191	-4.803517	2.795221	NO
		HWT2-06			HWT14-02	*5.5	*8.3788	-5.908919	2.425231	NO
		HWT2-07			HWT2-06	234.75	17203.5833	2.532821	4.489598	NO
					HWT2-07	*5.54	*14.1978	-5.864846	2.453601	NO

0.01 LEVEL OF SIGNIFICANCE USED

TABLE 6

EXCEPTION REPORT (ER-1)

REPORT DATE: 21 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 03 YEAR: 84

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWT13-01 UPGRADIENT	10/23/84	PH	SU	8.29	2.0059	9.6	0.
HWT13-02 DOWNGRADIENT	10/23/84	PH	SU	8.29	2.0059	6.55	0.0033
HWT14-02 UPGRADIENT	10/24/84	PH	SU	8.29	2.0059	7.3	0.
HWT2-06 UPGRADIENT	10/23/84	PH	SU	8.29	2.0059	6.85	0.0033
HWT2-07 UPGRADIENT	10/23/84	PH	SU	8.29	2.0059	9.	0.
HWT13-02 DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	3624.06	7793138.	7972.5	30825.
HWT2-06 UPGRADIENT	10/23/84	SPEC COND	UMHOS/CM	3624.06	7793138.	7522.5	11558.3333
HWT2-07 UPGRADIENT	10/23/84	SPEC COND	UMHOS/CM	3624.06	7793138.	5797.5	1491.6667
HWT14-02 UPGRADIENT	10/24/84	TOC	MG/L	21.45	594.6369	71.42	1.2825

0.01 LEVEL OF SIGNIFICANCE USED

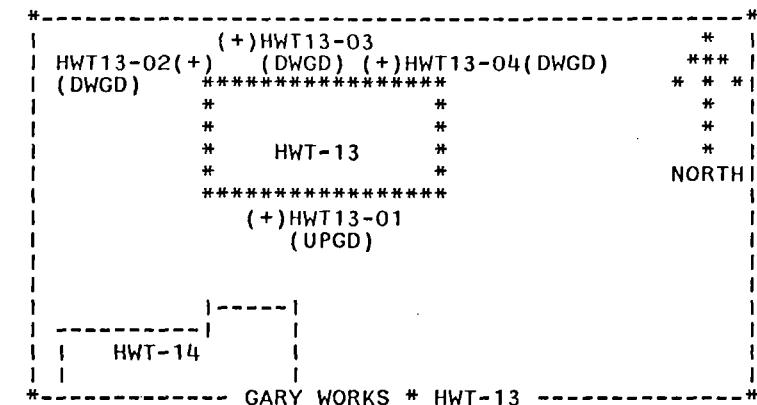


TABLE 7

STATISTICAL COMPARISON (SC-1)

REPORT DATE: 21 MAY 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT

* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 03 YEAR: 84

*	(+)HWT13-03	*
|	HWT13-02 (+) (DWGD) (+)HWT13-04 (DWGD)	***
|	(DWGD) *****	* * *
	*	*
	*	*
	*	*
|	HWT-13	*
	*	*
|	*****	NORTH
|	(+)HWT13-01	
|	(UPGD)	

|-----|	HWT-14	

-----|	GARY WORKS	*
-----|	HWT-13	- - - - -

INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	MEAN	VARIANCE	T-STATISTIC	COMPARISON T-STATISTIC	STATS. SIGNIF. CHANGE
PH	SU	HWT13-01	8.77	2.3852	HWT13-01	9.6	0.	3.738286	2.685	YES
		HWT14-02			HWT13-03	7.6	0.	5.233601	2.685	YES
					HWT13-04	6.85	0.0033	8.52686	2.737052	YES
					HWT14-02	7.3	0.	6.579384	2.685	YES
SPEC COND	UMHOS/CM	HWT13-01	957.5	55734.0426	HWT13-01	1495.	2700.	12.543746	3.192137	YES
		HWT14-02			HWT13-03	2877.5	158.3333	55.409254	2.478318	YES
					HWT13-04	4145.	366.6667	90.055577	2.564071	YES
					HWT14-02	1097.5	91.6667	4.068594	2.449283	YES
TOC	MG/L	HWT13-01	32.13	903.9304	HWT13-01	4.42	0.0025	-5.755638	2.428057	NO
		HWT14-02			HWT13-03	16.95	0.03	-3.153593	2.428684	NO
					HWT13-04	19.45	1.4967	-2.613806	2.461569	NO
					HWT14-02	71.42	1.2825	8.105223	2.456831	YES
TOX	UG/L	HWT13-01	*12.14	*76.4568	HWT13-01	*5.89	*4.7532	-3.372007	3.169662	NO
		HWT14-02			HWT13-03	*8.46	*24.7641	-1.266594	3.982532	NO
					HWT13-04	20.75	12.9167	3.679632	3.680572	NO
					HWT14-02	*5.5	*8.3788	-3.1865	3.455838	NO

0.01 LEVEL OF SIGNIFICANCE USED

TABLE 7

EXCEPTION REPORT (ER-1)

REPORT DATE: 21 MAY 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT

INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
 FACILITY GARY WORKS LOCATION GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 03 YEAR: 84

SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	VARIANCE	SAMPLING RESULTS MEAN	VARIANCE
HWT13-01 UPGRAIENT	10/23/84 PH	SU		8.77	2.3852	9.6	0.
HWT13-03 DOWNGRADIENT	10/23/84 PH	SU		8.77	2.3852	7.6	0.
HWT13-04 DOWNGRADIENT	10/23/84 PH	SU		8.77	2.3852	6.85	0.0033
HWT14-02 UPGRAIDENT	10/24/84 PH	SU		8.77	2.3852	7.3	0.
HWT13-01 UPGRAIDENT	10/23/84 SPEC COND	UMHOS/CM		957.5	55734.0426	1495.	2700.
HWT13-03 DOWNGRADIENT	10/23/84 SPEC COND	UMHOS/CM		957.5	55734.0426	2877.5	158.3333
HWT13-04 DOWNGRADIENT	10/23/84 SPEC COND	UMHOS/CM		957.5	55734.0426	4145.	366.6667
HWT14-02 UPGRAIDENT	10/24/84 SPEC COND	UMHOS/CM		957.5	55734.0426	1097.5	91.6667
HWT14-02 UPGRAIDENT	10/24/84 TOC	MG/L		32.13	903.9304	71.42	1.2825

0.01 LEVEL OF SIGNIFICANCE USED

(+)HWT13-03	*	
HWT13-02(+)	(DWGD) (+)HWT13-04(DWGD)	***
(DWGD)	*****	* * *
*	*	*
*	*	*
*	HWT-13	*
*	*	*
*****		NORTH
(+)HWT13-01		
(UPGD)		
HWT-14		

GARY WORKS * HWT-13

analyses. However, a statistically higher TOC at upgradient well HWT-14-02 was determined.

Interim Primary drinking water standard inorganic parameters and nickel have been monitored routinely by Gary Works at site HWT-13. In addition, volatile organic priority pollutants were analyzed for the October, 1984 sampling. Hexavalent chromium and lead have been associated with this facility as the parameters of potential concern.

Results of the October, 1984 sampling at HWT-13 included in Appendix D indicate slight exceedances of the primary drinking water standard only for cadmium at the downgradient wells. Previous exceedances have been noted for lead, selenium and nitrate. Nitrate exceedances were only noted during the first year monitoring. In addition, increased downgradient chloride, iron, manganese, sodium, sulfate, nickel, and phenols have been measured. As in the case of site HWT-2, background conditions (slag) may be responsible for the elevated cadmium, chloride, nickel and sulfate.

A toluene concentration of 7 ug/l was reported in the October, 1984 sampling data for downgradient well HWT-13-04. No other volatile constituents were detected for this or other site HWT-13 well.

SITE HWT-14

Statistical analyses or other groundwater quality comparisons have not been completed for this site. According to the findings of the groundwater flow study, all existing site wells are situated hydraulically upgradient of site HWT-14. Data for the 1983 and 1984 sampling events are included in Appendix D.

APPENDIX A

PIEZOMETER AND PERIMETER WELL LOGS/CONSTRUCTION DETAILS

Project U.S. Steel Corp. - Gary Works
 Boring No. P-1 Ground Elev. 600.2
 S.O. No. 14620-01-SRI
 Date Started 4/3/84 Date Completed 4/3/84
 Remarks Stickup = 2.9 ft.(steel casing); 2.7ft. (PVC casing)

Michael Baker,Jr.,Inc.

Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	5	S-1	20/60	SLAG - black & brown, damp, dense	Cement (1 bag) C C	
-	10	S-2	17/14/8		Auger cuttings (slag) A A	
-	15	S-3	3/8/9	SAND AND SLAG - dark brown, damp, med. dense, organic odor	Bentonite powder (1/2 bag) 2 inch dia. PVC, Sch. 80	
-	20	S-4	1	SAND - brown, fine, very loose, organic odor, wet	Caved	Hit water at approx. 13'.
-	25	S-5	1/2	SAND - black, fine, w/tar, very loose	Bentonite pellets (10 lb.) and sand cavings	
-	30	S-6	2/5/7	(black to brown, loose, not as tarry as above)	18.8' 2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
-	35	S-7	4/3/7	SAND - fine to med., gray, W/tr. of fine gravel, loose, no tar odor or visible sign	Coarse sand backfill 28.8'	PVC bottom cap.
-	40			E.O.B. at 31.5 Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.		

Project U.S. Steel Corp. - Gary Works
 Boring No. P-2 Ground Elev. 613.86
 S.O. No. 14620-01-SRI
 Date Started 4/2/84 Date Completed 4/3/84
 Remarks Stickup = 2.5 ft. (steel casing); 2.4 ft. (PVC casing)

Michael Baker,Jr., Inc.
Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
	1.5	S-1	4/11/20	SLAG - black, damp, med. dense to dense	Cement (1 bag) C	Drilled using 3-1/4" I.D. hollow stem augers.
	5				Bentonite powder (1/2 bag) and sand	Developed with compressed air.
	6.5	S-2	13/24/30			
	10					
	11.5	S-3	8/8/10	(moist, med. dense)	Sand (auger cuttings) A A	
	15					
	16.5	S-4	6/8/9	(damp, med. dense)	2 inch dia. sch. 80 PVC Casing	
	20					
	23.0'	S-5	8/6/9	(damp)		
	25			SAND with some slag, dark brown, med. grained, wet, loose.	Bentonite (20 lb. pellets)	Hit water @ Approx. 26'
	27.0'	S-6	4/3/6			
	30			SAND - fine to med., brown wet, loose	Coarse sand	Sand blowing back up into augers. Had to wash out with water
	35	S-7	3/7/10		2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
	38	S-8	10/22/33	(dense)		
	40			E.O.B. at 40.0		PVC bottom plug

Project U.S. Steel Corp. - Gary Works
 Boring No. P-3 Ground Elev. 614.48
 S.O. No. 14620-01-SRI
 Date Started 4/2/84 Date Completed 4/3/84
 Remarks Stickup = 2.5 ft. (steel casing); 2.4 ft. (PVC SHEET 1 OF 2 casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	1.5	S-1	23/34/40	Slag- Black, damp, very dense, coarse (med. dense, moist)	Cement (1 bag)	C C
-	5				Auger Cuttings (slag)	A A
-	10	S-2	10/14/19		Bentonite powder (1/2 bag)	
-	15	S-3	7/8/11		Caved	
-	20	S-4	9/13/12		2 inch dia. sch. 80 PVC	
-	25	S-5	8/7/5	(brown and black, very coarse)		
-	30	S-6	8/3/2		Bentonite (10 lb. pellets)	Hit water @ approx. 25'
-	32.5			28.5'	29.0'	
-	35	S-7	2/5/5	Sand, gray, med. to fine, wet, loose	Coarse Sand	
-	40	S-8	7/11/19	(med. dense)	2 inch dia. sch. 40 PVC screen (0.010 inch slots)	
					39.0'	PVC bottom plug

Project U.S. Steel Corp. - Gary Works
Boring No. P-3 Ground Elev.
S.D. No. 14620-01-SRI
Date Started _____ Date Completed _____
Remarks Stickup = ft.

Michael Baker,Jr.,Inc.
Test Boring Record



SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
41.5	41.5	S-9	12/18/22	Sand (as above), dense E.O.B. @ 41.5'		
45				Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers. Developed with compressed air.		
50						
55						
60						
65						
70						
75						
80						

DRILLING CO. ATEC ASSOCIATES

GEOLOGIST/
ENGINEER D. W. Hupe

Dennis Sheffield

Project U.S. Steel Corp. - Gary Works
 Boring No. P-4 Ground Elev. 601.55
 S.O. No. 14620-01-SRI
 Date Started 4/4/84 Date Completed 4/5/84
 Remarks Stickup = 2.3 ft. (steel casing); 2.1 ft. (PVC casing)

Michael Baker, Jr., Inc.
Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
0.5	0.5	S-1	100	Slag, gray, very dense	Cement C	
5	5				Auger cuttings A A	
6.5	6.5	S-2	12/16/11		Bentonite Powder (1/2 bag)	
10	10				2 inch dia. PVC casing Sch. 80	
15	15	S-4	100		Caved	
15.2	15.2					
20	20					
25	25	S-5	70/63/9			Hit water @ approx. 19.5'
25.3	25.3	S-6	100		Bentonite pellets (5 lb.) 24.7'	
30	30			Slag and Ash, black, wet, dense	Coarse sand backfill	
35	35	S-7	8/15/21		2 inch, dia. Sch. 40 PVC screen (0.010 inch slots)	
35.9	35.9	S-8	25/100-.4	Slag, blue, very dense	34.7'	PVC bottom plug
40	40			E.O.B. @ 35.9' Drilled using 3 1/4" I.D. hollow stem augers. Developed with compressed air.		

Project U.S. Steel Corp. - Gary Works
 Boring No. F-5 Ground Elev. 601.17
 S.O. No. 14620-01-SRI
 Date Started 4/5/84 Date Completed 4/9/84
 Remarks Stickup = 2.9 ft. (steel casing) 2.7 ft. (PVC casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type #	SPT Blows	Description	Well Installation Detail	Notes
	-	S-1		Slag- gray, very dense damp	Cement	C C
5	5				Bentonite powder (1/2 bag with lower seal)	A A
5.1	5.1	S-2	100		2 inch dia. Sch. 80 PVC casing	
10	10					
10.1	10.1	S-3	50		Auger cuttings (slag)	A A
15	15					
15.1	15.1	S-4	50		Bentonite powder(10 lb.)	
20	20			(blue & gray, wet)	Caved	
20.5	20.5	S-5	100		Bentonite powder(slurry)	
25	25				22.8	Hit water @ approx. 18.5
26	26	S-6	71/64/69		Coarse sand	
30	30				2 inch dia. Sch. 40 PVC screen(0.010 in slots)	
30.5	30.5	S-7	75			
35	35			E.O.B. @ 33.0 Drilled using 3 1/4" I.D. hollow stem augers. Developed with Compressed air.		
40	40				32.8	PVC bottom plug

Project U.S. Steel Corp. - Gary Works
 Boring No. P-6 Ground Elev. 604.42
 S.O. No. 14620-01-SRI
 Date Started 4/5/84 Date Completed 4/5/84
 Remarks Stickup = 2.5 ft. (steel casing); 2.3 ft (PVC casing) SHEET 1 OF 1

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
				Slag- gray, loose, damp	Cement	C C
5					Auger cuttings (slag)	A A
	S-1	5/5/3			Bentonite powder(1/2 bag)	
10				(very dense)	2 inch dia. sch. 80 PVC Casing	
10.6	S-2	50 100			Auger cuttings (slag)	A A
15					Bentonite pellets(10 lb.)	Hit water @ approx. 15.5'
15.8	S-3	23 50		(gray and brown, wet, very dense)	20.0	
20					2 inch dia. PVC screen Sch. 40(0.010 inch slots)	
20.1	S-4	50			Coarse sand backfill	
25				(blue, dense to very dense)	30.0	PVC bottom plug
	S-5	16/13/13				
30						
30.1	S-6	50		E.O.B. @ 30.1' Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers. Lead auger with bit (total length 5.5') lost and left at bottom of hole partially around well screen. Developed with compressed air.		
35						
40						

Project U.S. Steel Corp. - Gary Works
 Boring No. P-7 Ground Elev. 599.26
 S.O. No. 14620-01-SRI
 Date Started 4/9/84 Date Completed 4/9/84
 Remarks Stickup = 2.6 ft. (steel casing); 2.3 ft (PVC casing) SHEET 1 OF 1

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
0.3		S-	100	Slag-blue-green, damp, very dense	Cement	C
5				Slag and Ash-dark brown, damp, dense to very dense, with a little sand	Bentonite powder(1/2 bag with lower seal)	
10		S-2	23/35/20	(loose to med. dense)	2 inch dia. Sch. 80 PVC casing	
15		S-3	9/6/9		Auger Cuttings A (slag)	A
20		S-4	10/4/3	Sand-fine to med grained, wet, loose, w/a little fine gravel	Bentonite powder (slurry)	Hit water @ approx. 15.0'
25		S-5	3/3/5		20.0 Coarse sand backfill	
30		S-6	10/11/13		2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
31.5		S-7	6/20/25	(a little coarse gravel) E.O.B. @ 31.5'	30.0 PVC bottom plug	
35				Drilled using 3 1/4" I.D. hollow stem augers.		
40				Developed with compressed air.		

Project U.S. Steel Corp. - Gary Works
 Boring No. P-8 Ground Elev. 604.12
 S.O. No. 14620-01-SRI
 Date Started 4/5/84 Date Completed 4/5/84
 Remarks Stickup = 2.6 ft. (steel casing); 2.5 (PVC casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-			Slag and Ash- black and gray, damp, med. dense to dense	Cement	
5					Auger cuttings	C
	5	S-1	7/10/8		Bentonite powder(1/2 bag with lower seal)	A
10					Auger cuttings	A
	10	S-2	1/1/1	Sand- brown, fine, damp, very loose	2 inch dia. Sch. 80 PVC Casing	
15				Slag, gray w/ a little sand, brown, wet, very dense	Bentonite powder	
	15	S-3	9/50			Hit water @ approx. 14.5'
20				Slag, gray and blue, wet, very dense		
20.1	20	S-4	50		19.7	
25					2 inch dia. Sch. 40 PVC screen(0.010 inch slots)	
	25	S-5	2/14/49		Coarse sand backfill	
30					29.7	PVC bottom plug
31.5	30	S-6	9/9/10	E.O.B. @ 31.5'		
35				Drilled using 3 1/4" I.D. hollow stem augers.		
	35			Developed with compressed air.		
40						

Project U.S. Steel Corp. - Gary WorksBoring No. P-9 Ground Elev. 603.49S.O. No. 14620-01-SRIDate Started 4/9/84 Date Completed 4/9/84Remarks Stickup = 2.3 ft. (steel casing); 2.0 ft (PVC casing) SHEET 1 OF 1**Michael Baker,Jr.,Inc.****Test Boring Record**

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
				Slag- blueish green, damp, very dense	Cement Bentonite Powder ($\frac{1}{2}$ bag)	C C
5					Auger cuttings 2 inch dia. Sch. 80 PVC casing	A A
5.3	S-1	50				
10						
10.1	S-2	50				
15				Slag and Ash - dark brown, damp, med. dense, with a little sand	Bentonite pellets (20 lb.)	
16.5	S-3	3/4/8			14.0	
20				(very dense, wet)	Coarse sand backfill	
20	S-4	13/17/35			2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	Hit water @ approx. 18.5'
25						
25.2	S-5	50			24.0	PVC bottom plug
30				E.O.B. @ 25.2' (Auger would not penetrate deeper)		
30				Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers.		
35				Developed with compressed air.		
40						

DRILLING CO. ATEC ASSOCIATESGEOLOGIST/
ENGINEER

D. W. Hupe

Bill Kollasch -Driller

Project U.S. Steel Corp. - Gary WorksBoring No. P- 10 Ground Elev. 589.67S.O. No. 14620-01-SRIDate Started 4/12/84 Date Completed 4/12/84Remarks Stickup = 2.6 ft. (steel casing); 2.4 ft(PVC casing) SHEET 1 OF 1**Michael Baker,Jr.,Inc.****Test Boring Record**

Elevation (ft.)	Depth (ft.)	Sample Type #	SPT Blows	Description	Well Installation Detail	Notes
-	-	S-1	4/4/5	Coal-black	Cement	
5	5			Sand-brown, fine grained, tr. of silt, med. dense	Auger cuttings (slag) A	A
10	10	S-2	7/7/9		Bentonite powder(slurry)	
15	15	S-3	5/12/15	Sand and Gravel-brown, wet, dense	2 inch dia. Sch. 80 PVC casing	9.9
20	20	S-4	10/20/21	Sand-gray, fine grained, wet,with a little silt, dense	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
25	25	S-5	10/26/31	Sand-gray, with a little gravel, with a little silt wet, very dense	Coarse sand backfill	19.9
30	30			E.O.B. @ 21.5 Developed with compressed air.		PVC bottom plug
35	35					
40	40					

DRILLING CO. ATEC ASSOCIATES

Dennis Sheffield-Driller

GEOLOGIST/
ENGINEER

D. W. Hupe

Project U.S. Steel Corp. - Gary Works
Boring No. P- 11 Ground Elev. 594.24
S.O. No. 14620-01-SRI
Date Started 4/12/84 Date Completed 4/12/84
Remarks Stickup = 2.7 ft. (steel casing);

Michael Baker,Jr.,Inc.
Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Casing	Notes
				Slag-gray and black, damp, dense	Cement	C	
5				Sand-brown, fine, damp, med. dense	Auger cuttings (sand)	A	A
					Bentonite powder ($\frac{1}{2}$ bag with lower seal)	X	X
10				(wet, loose)	2 inch dia. Sch. 80 PVC casing	A	A
					Auger cuttings (sand)	X	X
15				Sand and Gravel-brown, dense	Bentonite Powder (slurry)	X	X
					14.9		
20				Sand-gray, fine, with a little silt, dense	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)		
				(sand and gravel lense @ 20.5)	Coarse sand backfill		
25				(sea shells)	24.9		PVC bottom plug
				E.O.B. @ 26.0' Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers. Developed with compressed air.			
30							
35							
40							

DRILLING CO. ATEC ASSOCIATES
Dennis Sheffield - Driller

**GEOLOGIST/
ENGINEER** D. W. Hupe

Project U.S. Steel Corp. - Gary Works
 Boring No. P-12 Ground Elev. 592.6
 S.O. No. 14620-01-SRI
 Date Started 4/20/84 Date Completed 4/20/84
 Remarks Stickup = 2.2 ft. (steel casing); 2.0 ft (PVC casing)

Michael Baker,Jr., Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-			Slag-gray, med. dense		
5					Bentonite powder ($\frac{1}{2}$ bag-slurry)	
-	5	S-1	8/9/5		2 inch dia. Sch. 80 solid PVC casing	Hit water @ 5.5'
10				Sand-brown, fine grained, wet, med. dense	10.0	
-	10	S-2	5/5/5		Coarse sand backfill	
15				Sand-brown, fine to med. grained, wet	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
-	15	S-3	5/13/16		20.0	PVC bottom plug
20						
-	20	S-4	10/20/32			
25				E.O.B. @ 21.5 Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers. Developed with compressed air.		
30						
35						
40						

DRILLING CO. ATEC ASSOCIATES

Bill Kollasch - Driller

GEOLOGIST/
ENGINEER D. W. Hupe

Project U.S. Steel Corp. - Gary WorksBoring No. P- 13 Ground Elev. 590.3S.O. No. 14620-01-SRIDate Started 4/19/84 Date Completed 4/19/84Remarks Stickup = 2.5 ft. (steel casing); 2.3(pvc Casing)**Michael Baker,Jr.,Inc.****Test Boring Record**SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-			Sand-brown, fine grained	Cement	C C
5					Auger cuttings (sand)	A A
	S-1	6/5/5			Bentonite powder(slurry- ½ bag)	
10					2 inch dia. Sch. 80 PVC solid casing	
	S-2	5/7/12			10.0	Hit water @ 5.5'
15				Sand-gray, fine grained, with tr. of silt, wet, very dense	2 inch dia. Sch. 40 PVC casing slotted with hacksaw	
	S-3	14/24/30			Coarse sand backfill	
20					20.0	
	S-4	9/24/32				
25				E.O.B. @ 21.5'		
				Drilled using 3-1/4" I.D. Hollow Stem Auger		
30				Developed with compressed air.		
35						
40						

DRILLING CO. ATEC ASSOCIATES

Bill Kollasch

GEOLOGIST/
ENGINEER D. W. Hupe

Project U.S. Steel Corp. - Gary Works
 Boring No. P- 14 Ground Elev. 589.83
 S.O. No. 14620-01-SRI
 Date Started 4/17/84 Date Completed 4/17/84
 Remarks Stickup = 2.4 ft. (steel casing); 2.2 ft (PVC Casing) SHEET 1 OF 1

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
5				Slag with a little sand-gray, black, and brown	Cement Bentonite Powder ($\frac{1}{2}$ bag) 2 inch dia. Sch. 80 solid PVC casing	C Dug to 4.0' by hand in order to check for underground utilities. Hit water @ 2.0'
10		S-1	3/2/3	Sand-brown, fine to med. grained		
15		S-2	3/5/13	Sand-gray, fine, with a little fine gravel	2 inch dia. Sch. 40 PVC screen(0.010 inch slots)	
20		S-3	4/12/20		Coarse sand backfill	
25		S-4	12/22/32	E.O.B. @ 21.5 Drilled using $3\frac{1}{4}$ " I.D. hollow stem augers. Developed with compressed air.	19.5	PVC bottom plug
30						
35						
40						

DRILLING CO. ATEC ASSOCIATES

Bill Kollasch - Driller

GEOLOGIST/
ENGINEER D. W. Hupe

Project U.S. Steel Corp. - Gary WorksBoring No. P-15 Ground Elev. 593.71S.O. No. 14620-01-SRIDate Started 4/16/84 Date Completed 4/16/84Remarks Stickup = 2.2 ft.(steel casing); 2.0 ft(PVC casing) SHEET 1 OF 1**Michael Baker,Jr.,Inc.****Test Boring Record**

Elevation (ft.)	Depth (ft.)	Sample Type #	SPT Blows	Description	Well Installation Detail	Notes
-	1			Slag-gray, with some sand	Cement	C C
-	5				Auger Cuttings (Sand)	A A
-	6.5	S-1	7/5/5		Bentonite powder ($\frac{1}{2}$ Bag)	X X
-	10				2 inch dia. Sch. 80 PVC Casing	
-	11.5	S-2	3/43/26		Caved	
-	15			Sand-brown, fine to med. grained, with tr. of gravel		Hit water @ approx. 9.0'
-	16.5	S-3	7/13/22			14.4
-	20			(gray)	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
-	25	S-4	8/11/15		Coarse Sand	
-	26.5	S-5	7/20/24			24.4
-	30			E.O.B. @ 26.5'		PVC bottom plug
-	35			Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers.		
-	40			Developed with compressed air.		

Project U.S. Steel Corp. - Gary Works

Boring No. P-16 Ground Elev. 594.79

S.O. No. 14620-01-SRI

Date Started 4/11/84 Date Completed 4/12/84

Remarks Stickup = 2.3 ft. (steel casing); 2.2 ft (PVC SHEET 1 OF 1 casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
	2	S-1	73/27/27	Slag-gray, damp, very dense	Cement C C	
5				Sludge-gray and white, wet, stiff	Auger cuttings A A	
	10	S-2	5/4/7		Bentonite powder ($\frac{1}{2}$ bag with lower seals)	
	10			Sand-brown, fine with a little slag, tr. of silt, loose	Auger cuttings (slag) A A	Hit water @ approx. 11.5'
	15	S-3	6/3/2		Bentonite powder Caved	
	15			Slag-gray and brown, wet, very dense	Bentonite powder 14.8 (slurry)	
	20	S-4	10/75		Coarse sand backfill	
	20			(blue, med. dense)	2 inch dia. Sch. 40 PVC Screen(0.010 inch slots)	
	25	S-5	19/19/4			
	25				24.8	PVC bottom plug
26.5	26.5	S-6	5/6/14	E.O.B. @ 26.5 Drilled using 3 $\frac{1}{4}$ " I.D. hollow stem augers. Developed with compressed air.		
30						
35						
40						

DRILLING CO. ATEC ASSOCIATES

GEOLOGIST/
ENGINEER D. W. Hupe

Dennis Sheffield - Driller

Project U.S. Steel Corp. - Gary Works
 Boring No. HW D 2-5 Ground Elev. 622.11
 S.O. No. 14621-01-SRI
 Date Started 4/17/84 Date Completed 4/18/84
 Remarks Stickup = 1.7 ft. (steel casing); 1.5ft. (PVC Casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-			SLAG AND ASH - black and red, loose, damp	Cement C C	
5					Bentonite Powder (1/2 bag with lower powder seals)	X X
S-1	5/2/1					
10					Auger cuttings —	
S-2	1/1/1					
15						
S-3	3/3/1					
20						
S-4	3/5/2				Solid 2 inch dia. Sch. 80 PVC casing	
25				SAND - brown, fine to med. grained, damp, med. dense		
S-5	6/7/11				Auger cuttings —	
30						
S-6	12/14/15					
35					Bentonite pellets (20 lb.)	
S-7	4/3/3				Caved —	Hit water @ approx. 38.0'
40						

Project U.S. Steel Corp. - Gary WorksBoring No. HWD 2-5 Ground Elev. S.O. No. 14621-01-SRI

Date Started _____ Date Completed _____

Remarks Stickup = ft.

Michael Baker,Jr.,Inc.**Test Boring Record**SHEET 2 OF 3

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
	- S-8	7/16/22		SAND (as above) - wet, dense to very dense		
45						Caved
	- S-9	7/38/42				
50						
	- S-10	5/27/36				
55				SAND - gray, fine grained, w/a trace of silt, wet, very dense		
	- S-11	13/25/ 32				Caved
60						Bentonite powder (slurry)
	- S-12	18/40/48				
65						
	- S-13	7/32/45				Coarse sand backfill
70						70.0
	- S-14	24/35/39				
75						2 inch dia. Sch. 40 PVC screen (0.010 inch slots)
	- S-15	10/22/33				
80				SAND - dark gray, fine grained, w/a little silt, wet, very dense		

DRILLING CO.

ATEC ASSOCIATES

Bill Kollasch

GEOLOGIST/
ENGINEER

D. W. Hupe

Project U.S. Steel Corp. - Gary Works
Boring No. HW D 2-5 Ground Elev.
S.O. No. 14621-01-SRI
Date Started Date Completed
Remarks Stickup = ft.

Michael Baker,Jr.,Inc.
Test Boring Record



SHEET 3 OF 3

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
		S-16	15/35/ 44	SAND (as above)		
85		S-17	15/18/ 6	SAND - dark gray, fine to med. grained with some fine to med. gravel, tr. of silt		
90		S-18	2/3/4	CLAY - gray, w/tr. of fine gravel, wet, med. stiff	90.0	PVC bottom plug
95				E.O.B. @ 91.5' Drilled using 3-1/4" I.D. hollow steam augers. Developed with compressed air.		

DRILLING CO. ATEC ASSOCIATES
Bill Kollasch

**GEOLOGIST/
ENGINEER** D. W. Hupe

Project U.S. Steel Corp. - Gary Works
 Boring No. HWD 2-6 Ground Elev. 606.68
 S.O. No. 14621-01-SRI
 Date Started 4/18/84 Date Completed 4/20/84
 Remarks Stickup = 2.5 ft. (steel casing); 2.3 (PVC casing)

Michael Baker,Jr.,Inc.

Test Boring Record



SHEET 1 OF 2

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
		S-1	6/30/100-0	SLAG AND ASH - black, very dense, damp	Cement C C	
5		S-2	100-0			
10		S-3	7/6/6	(med. dense)	Auger cuttings (sand) A A	
15		S-4	3/5/6			
20		S-5	2/2/9		Bentonite powder (1/2 bag with lower seal)	Hit water @ approx. 21.0'
25		S-6	7/16/23	SAND - gray, fine to med. grained, wet, dense		
30		S-7	9/22/26		Caved	
35		S-8	18/37/45	SAND - gray, fine grained, w/tr. of silt, very dense		
40						

Project U.S. Steel Corp. - Gary WorksBoring No. HW D 2-6 Ground Elev. S.O. No. 14621-01-SRI

Date Started _____ Date Completed _____

Remarks Stickup = ft.

Michael Baker,Jr.,Inc.**Test Boring Record**SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
		S-9	16/29/36	SAND (as above)	Caved	
45					Bentonite powder (slurry)	
		S-10	18/31/44		2 inch dia. Sch. 80 PVC solid casing	
50				SAND - gray, fine to med. grained, very dense	50.0	
		S-11	28/41/63			
55					Coarse sand backfill and cavings	
		S-12	17/27/40			
60					2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
		S-13	12/29/34			10.0 ft. of screen lost in initial hole when casing separated. Moved 4.0' west and redrilled.
65						
		S-14	13/23/28			
70				CLAY - gray, plastic, w/tr. of rock frags.		PVC bottom plug.
		S-15	2/3/5	E.O.B. @ 71.5' Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.	70.0	
75						
80						

Project U.S. Steel Corp. - Gary Works

Boring No. HW D 2-7 Ground Elev. 597.78

S.O. No. 14621-01-SRI

Date Started 4/3/84 Date Completed 4/4/84

Remarks Stickup = 2.6 ft. (steel casing); 2.4 ft. (PVC casing) SHEET 1 OF 2

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
		S-1	3/9/10	SLAG, CONCRETE and other misc. fill, black to brown, damp	Cement C C	
5				wet	Auger cuttings (sand) A A	Hit water @ approx. 5'
		S-2	3/7/100		Bentonite powder (1/2 bag)	
10					2 inch dia. Sch. 80 PVC	
		S-3	6/10/13	SAND - brown, fine to med., med. dense, wet (blowing back up into augers)	Caved when augers pulled	
15						
		S-4	5/12/17	SAND - gray, medium, wet, med. dense		
20				SAND - gray, med. to coarse, w/a little fine to med. gravel, med. dense		
		S-5	9/16/22			
25						
		S-6	13/43/54	(very dense)	Bentonite slurry (1/2 bag powder)	
30				SAND - gray, fine, very dense	29.6	
		S-7	26/49/64		2 inch dia. Sch. 40 PVC screen (0.010" slots)	
35						
		S-8	16/54/89		Coarse sand backfill	
40						

Project U.S. Steel Corp. - Gary Works
 Boring No. HWD 2-7 Ground Elev.
 S.O. No. 14621-01-SRI
 Date Started Date Completed
 Remarks Stickup = ft.

Michael Baker,Jr.,Inc.
Test Boring Record



SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
		S-9	40/51	SAND - fine to med., w/tr. of fine gravel, gray, very dense	2 inch dia. Sch. 40 PVC screen (0.010" slots)	
45		S-10	12/22/27		Coarse sand backfill	
50		S-11	4/4/2	CLAY - gray, plastic, soft	49.6	PVC bottom plug
55				E.O.B. @ 51.5 Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.		
60						
65						
70						
75						
80						

Project U.S. Steel Corp. - Gary Works
 Boring No. HW T 2-8 Ground Elev. 587.58
 S.O. No. 14621-01-SRI
 Date Started 4/9/84 Date Completed 4/10/84
 Remarks Stickup = 2.1 ft. (steel casing); 1.9 ft. (PVC Casing)

Michael Baker,Jr.,Inc.
Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-	-	-	SLAG - gray to green, very dense	Cement C C	
5	-	-	-		Auger cuttings A A	
6.5	6.5	S-1	4/9/45		Bentonite pellets (10 lb.)	Hit water @ approx. 4.5'
10	-	-	-		Auger cuttings A A	
10.8	10.8	S-2	16/50			
15	-	-	-		Bentonite pellets (10 lb.)	
16.2	16.2	S-3	15/30/50			
20	-	-	-		2 inch dia. Sch. 80 PVC casing	
21.5	21.5	S-4	27/8/4			
25	-	-	-		Caved (slag)	
26.5	26.5	S-5	7/6/8	(blue, med. dense)		
30	-	-	-			
31.5	31.5	S-6	9/8/26		30.0	
35	-	-	-	SAND - brown, fine, tr. of silt, wet, med. dense		
40	-	-	-	S-7 6/9/12		

Project U.S. Steel Corp. - Gary Works
 Boring No. HWT 2-8 Ground Elev.
 S.O. No. 14621-01-SRI
 Date Started _____ Date Completed _____
 Remarks Stickup = ft.

Michael Baker,Jr.,Inc. Test Boring Record



SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
41.5	41.5	S-8	9/15/21	SAND (as above)		
45	45			SAND - brown, fine to med. grained, med. dense to dense	2 inch dia. PVC screen Sch. 40 (0.010 inch slots)	
50	50	S-9	10/15/15		Coarse sand backfill	
51.5	51.5	S-10	2/4/3	CLAY - gray, med. stiff, W/a trace of fine gravel, plastic	50.0	PVC bottom plug
55	55			E.O.B. @ 51.5		
60	60			Drilled using 3-1/4" I.D. hollow stem augers.		
65	65			Developed with compressed air.		
70	70					
75	75					
80	80					

Project U.S. Steel Corp. - Gary Works
 Boring No. HW T 2-9 Ground Elev. 607.46
 S.O. No. 14621-01-SRI
 Date Started 4/9/84 Date Completed 4/11/84
 Remarks Stickup = 1.9 ft. (steel casing); 1.7ft. (PVC Casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type #	SPT Blows	Description	Well Installation Detail			Notes
		S-1	12/28/28	SAND AND SLAG - brown and gray, damp, dense	Cement	C	C	
5				SLAG - gray, coarse, dense	Auger Cuttings	A	A	
10		S-2	12/21/14		Bentonite powder (1/2 bag w/lower seals) and sand			
10.3		S-3	100	(wet)				
15				SLAG AND SAND - brown to gray, moist, med. dense				
16.5		S-4	7/11/11					
20		S-5	60	(wet, very dense)	Caved			
25		S-6	100					
25.5								
30				SLAG - gray, coarse, very dense	2 inch dia. Sch. 80 PVC casing			
35		S-7	55/65					Hit water @ approx. 29.0'
35.7		S-8	78/50		Bentonite slurry			
40					Caved			
					Bentonite slurry			

DRILLING CO. ATEC ASSOCIATES

Dennis Sheffield - Driller

GEOLOGIST/
ENGINEER D. W. Hupe

Project U.S. Steel Corp. - Gary Works

Boring No. HWT 2-9 Ground Elev.

S.O. No. 14621-01-SRI

Date Started _____ Date Completed _____
Remarks Stickup = ft.

Michael Baker,Jr.,Inc.

Test Boring Record



SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	41.5	S-9	25/36/42	SLAG - gray, coarse, very dense	Caved	
-	45				Bentonite powder (slurry)	
-	46	S-10	Blowback			
-	50			SLAG - blue-green, dense		
-	51.5	S-11	10/12/24			50.0
-	55			SAND & ASH - black, fine grained, w/a few pieces of metal (like ball bearings), med. dense	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
-	60	S-12	10/9/16			
-	65	S-13	16/23/37	SAND - dark gray to black, fine grained, dense (fill?)	Coarse sand backfill	
-	70	S-14	18/27/35	SAND - fine w/tr. of silt, very dense (natural)		
-	75			CLAY - gray, w/tr. of gravel, plastic		
-	80	S-15	5/6/7	E.O.B. @ 71.5' Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.		70.0 PVC bottom plug

Project U.S. Steel Corp. - Gary Works
 Boring No. HW T 2-10 Ground Elev. 588.75
 S.O. No. 14621-01-SRI
 Date Started 4/16/84 Date Completed 4/16/84
 Remarks Stickup = 2.5 ft. (steel casing; 2.3 ft. (PVC casing)) SHEET 1 OF 2

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
	1.5	S-1	5/4/5	SLAG SAND - brown, fine, w/tr. of silt, wet, loose to med. dense	Cement Bentonite Powder (1/2 bag with lower seal)	C C
	5	S-2	7/8/11		2 inch dia. Sch. 80 PVC casing	Water @ approx. 2 ft.
	10	S-3	8/14/18	SAND - gray, fine to med. grained, dense, tr. of wood		
	15	S-4	11/16/19		Caved	
	20	S-5	6/12/17		Bentonite Powder (slurry)	
	25	S-6	8/11/13	SAND - gray, fine, w/a little silt, dense to very dense (tr. of fine to med. gravel)	24.0	
	30	S-7	16/29/35		2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
	35	S-8	11/19/26		Coarse sand	
	40					

Project U.S. Steel Corp. - Gary WorksBoring No. HW T 2-10 Ground Elev. S.D. No. 14621-01-SRI

Date Started _____ Date Completed _____

Remarks Stickup = ft.**Michael Baker,Jr.,Inc.****Test Boring Record**SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sorby Type #	SPT Blows	Description	Well Installation Detail	Notes
		S-9	6/13/17	SAND (as above)		
45				CLAY - gray, w/tr. of gravel	44.0	PVC bottom plug
S-10	2 3/4					
50				E.O.B. @ 41.5 Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.		
55						
60						
65						
70						
75						
80						

Project U.S. Steel Corp. - Gary Works
 Boring No. HW D 5-5 Ground Elev. 591.97
 S.O. No. 14621-01-SRI
 Date Started 4/10/84 Date Completed 4/16/84
 Remarks Stickup = 2.2 ft. (steel casing); 2.0 ft. (PVC Casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample Type #	SPT Blows	Description	Well Installation Detail	Notes
				SLAG - gray, very dense	Cement — C C	
5					Bentonite Powder (1/2 bag w/seal below)	
5.4	S-1	50				
10					Auger cuttings (slag) — A	A Hot water @ approx. 10.0'
10.4	S-2	50				
15					2 inch dia. Sch. 80 PVC Casing	
15.3	S-3	50			Bentonite pellets (20 lb.)	
20					Caved —	
20.5	S-4	50			Bentonite powder (slurry)	
25				SAND AND SLAG - dark gray, wet, very dense		
25.5	S-5	50				
30				SLAG - blue, very dense		
30.4	S-6	50				
35				SAND - gray, fine, wet, w/a little silt, dense		
36.5	S-7	7/14/19				
40						

Project U.S. Steel Corp. - Gary WorksBoring No. HW D 5-5 Ground Elev. S.O. No. 14621-01-SRI

Date Started _____ Date Completed _____

Remarks Stickup = ft.**Michael Baker,Jr.,Inc.****Test Boring Record**SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
-	-	-	-	SAND (as above)	-	-
41.5	41.5	S-8	19/24/26	-	2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	-
45	45	-	-	-	Coarse sand backfill	-
50	50	S-9	11/17/20	-	50.0	PVC bottom plug
51.5	51.5	S-10	2/2/3	CLAY - gray, w/a tr. of fine gravel, plastic	-	-
55	55	-	-	E.O.B. @ 51.5 Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.	-	-
60	60	-	-	-	-	-
65	65	-	-	-	-	-
70	70	-	-	-	-	-
75	75	-	-	-	-	-
80	80	-	-	-	-	-

Project U.S. Steel Corp. - Gary Works
 Boring No. HWT 14-5 Ground Elev. 588.59
 S.O. No. 14621-01-SRI
 Date Started 4/19/84 Date Completed 4/19/84
 Remarks Stickup = 2.2 ft. (steel casing); 2.0 ft (PVC Casing)

Michael Baker,Jr.,Inc.

Test Boring Record



Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
				SAND - brown, fine grained, loose to med. dense, wet	Cement	C C
5					Bentonite Powder (1/2 bag with lower seal)	X X
10		S-1	5/5/6		Auger cutting (sand)	A A
				SAND - brown, fine to med. grained, tr. of fine gravel, wet, med. dense	2 inch dia. Sch. 80 PVC Casing	
		S-2	6/7/15	SAND - dark gray, fine grained, wet, dense, thin peat layer at top		
15						
		S-3	12/18/28		Caved	
20						
		S-4	18/48/59			
25						
		S-5	11/26/31			
30				SAND - gray, fine grained, w/tr. of silt, wet, dense	27.0	
		S-6	14/27/35		Coarse sand backfill	
35					2 inch dia. Sch. 40 PVC screen (0.010 inch slots)	
		S-7	14/17/20	(thin peat lense in sample S-7)		
40						

DRILLING CO. ATEC ASSOCIATES

Bill Kollasch - Driller

GEOLOGIST/
ENGINEER

D. W. Hupe

Project U.S. Steel Corp. - Gary Works
 Boring No. HW T 14-5 Ground Elev.
 S.O. No. 14621-01-SRI
 Date Started 4/19/84 Date Completed
 Remarks Stickup = ft.

Michael Baker,Jr.,Inc.
Test Boring Record



SHEET 2 OF 2

Elevation (ft.)	Depth (ft.)	Sample #	SPT Blows	Description	Well Installation Detail	Notes
		S-8	10/14/17	SAND - gray, dense, w/a little silt, tr. of gravel		
45		S-9	7/7/4	CLAY - gray, soft, plastic	47.0	PVC bottom plug
50		S-10	1/1/2	E.O.B. @ 48.5' Drilled using 3-1/4" I.D. hollow stem augers. Developed with compressed air.		
55						
60						
65						
70						
75						
80						

APPENDIX B
WATER LEVEL DATA SUMMARIES

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA APRIL 29, 1984 (SET #1)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	17.5	587.87	10:53	
HWD-2-02	618.6	30.07	588.53	11:14	
HWD-2-03	619.4	31.09	588.31	11:09	
HWD-2-04	621.01	32.85	588.16	11:06	
HWD-2-05	623.81	38.99	584.82	11.29	
HWD-2-06	609.18	23.57	585.61	11:35	
HWD-2-07	600.38	7.84	592.54	10:37	
P-1	603.10	14.84	588.26	10:57	
P-2	616.36	28.46	587.9	11:24	
P-3	616.98	27.24	589.74	11:20	
USGS 238	607.08	-	-	-	
USGS 239	615.95	-	-	-	
River	589.32	2.08	587.24	10:43	
<hr/>					
Lake Michigan	591.99	12.4	579.59	11:44	
<hr/>					
HWT-13-01	602.57	16.85	585.72	13:25	
HWT-13-02	603.77	20.88	582.89	12:37	
HWT-13-03	604.13	21.43	582.70	12:32	
HWT-13-04	603.62	21.15	582.47	12:27	
N. Bed HWT-13	606.65	2.6	604.05	12:15	All wet
S. Bed HWT-13	606.65	2.07	604.58	12:17	East half wet
P-4	603.85	20.63	583.22	12:47	
P-5	604.07	19.03	585.04	12:42	
<hr/>					
HWT-2-01	595.83	9.28	586.55	14:15	
HWT-2-02	603.81	19.43	584.38	13:50	
HWT-2-03	606.53	21.72	584.81	13:43	
HWT-2-04	606.80	19.32	587.48	13:38	
HWT-2-05	604.21	18.87	585.34	13:03	
HWT-2-06	604.32	21.36	582.96	12:59	

(SET #1)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-07	603.55	17.33	586.22	12:54	
HWT-2-08	589.68	7.05	582.63	13:18	
HWT-2-09	609.36	28.07	581.29	13:13	
HWT-2-10	591.25	2.43	588.82	15:11	
E. Lagoon HWT-2	605.13	5.03	600.10	12:52	
W. Lagoon HWT-2	606.80*	13.48	593.32		Measured from top casing HWT-2-04*
P-6	606.92	20.96	585.96	13:31	
P-7	601.86	16.57	585.29	14:09	
P-8	606.72	20.08	586.64	14:01	
P-9	605.79	20.63	585.16	14:05	
P-10	592.27	5.29	586.98	15:41	
P-11	596.94	10.03	586.91	15:31	
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HWT-14-01	592.74	8.78	583.96	15:58	
HWT-14-02	592.48	6.34	586.14	15:45	
HWT-14-03	592.07	5.86	586.21	15:53	
HWT-14-04	591.18	4.6	586.58	15:49	
HWT-14-05	590.79	6.45	584.34	15:16	
Separator Lagoons	590.30	6.92	583.38	16:02	
P-12	594.80	7.8	587.0	15:36	
P-13	592.80	7.7	585.1	15:22	
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HWD-5-01	589.42	4.0	585.42	15:01	
HWD-5-02	594.73	10.74	583.99	14:53	
HWD-5-03	596.34	12.68	583.66	14:45	
HWD-5-04	594.09	11.28	582.81	14:25	
HWD-5-05	594.17	12.0	582.17	14:32	
P-14	592.23	4.62	587.61	15:05	
P-15	595.91	9.85	586.06	14:56	
P-16	597.09	13.68	583.41	14:41	
Lake on E.	587.46	3.83	583.63	14:37	
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Weather Conditions Prior to Measurement Event: Unknown

Weather Conditions on Day of Measurements: Intermittent rain, cool

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA JUNE 2, 1984 (SET #2)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	17.39	587.98	16:30	
HWD-2-02	618.6	29.85	588.75	16:10	
HWD-2-03	619.4	30.89	588.51	16:15	
HWD-2-04	621.01	32.65	588.36	16:20	
HWD-2-05	623.81	38.73	585.08	11.18	
HWD-2-06	609.18	23.42	585.76	11:25	
HWD-2-07	600.38	7.57	592.81	10:35	
P-1	603.10	14.66	588.44	10:52	
P-2	616.36	28.30	588.06	11:10	
P-3	616.98	27.16	589.82	11:06	
USGS 238	607.08	20.78	586.30	10:00	Levels measured 6-4-84
USGS 239	615.95	20.84	595.11	9:40	" "
River	589.32	2.07	587.25	10:40	
Lake Michigan	591.99	11.84	580.15	11:32	
HWT-13-01	602.57	17.14	585.43	14:10	
HWT-13-02	603.77	20.85	582.92	14:36	
HWT-13-03	604.13	21.31	582.82	14:35	
HWT-13-04	603.62	20.92	582.70	14:29	
N. Bed HWT-13	606.65	3.1	603.55	14:26	Entire bed wet
S. Bed HWT-13	606.65	2.89	603.76	14:23	Top of wet sludge
P-4	603.85	20.36	583.49	14:41	
P-5	604.07	19.21	584.86	14:39	
HWT-2-01	595.83	9.28	586.55	13:23	
HWT-2-02	603.81	19.84	583.97	13:55	
HWT-2-03	606.53	22.20	584.33	14:00	
HWT-2-04	606.80	20.14	586.66	14:02	
HWT-2-05	604.21	20.95	583.26	15:00	
HWT-2-06	604.32	21.73	582.59	14:48	
HWT-2-07	603.55	16.22	587.33	14:46	

(SET #2)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-08	589.68	7.01	582.67	15:05	
HWT-2-09	609.36	27.90	581.46	15:01	
HWT-2-10	591.25	2.22	589.03	12:45	
E. Lagoon HWT-2	605.13	5.06	600.07	14:43	
W. Lagoon HWT-2	606.80*	13.13	593.67	9:00	Measured from top of Well HWT-2-04 (6-4)
P-6	606.92	21.24	585.68	13:30	
P-7	601.86	16.78	585.08	13:40	
P-8	606.72	21.09	585.63	13:50	
P-9	605.79	20.84	584.95	13:45	
P-10	592.27	5.04	587.23	12:59	
P-11	596.94	9.95	586.99	13:19	
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HWT-14-01	592.74	8.55	584.19	12:50	
HWT-14-02	592.48	6.23	586.25	13:02	
HWT-14-03	592.07	5.74	586.33	13:06	
HWT-14-04	591.18	4.49	586.69	13:09	
HWT-14-05	590.79	6.22	584.57	12:39	
Separator Lagoons	590.30	6.80	583.50	12:55	
P-12	594.80	7.52	587.28	13:15	
P-13	592.80	7.28	585.52	12:33	
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HWD-5-01	589.42	3.57	585.85	15:15	
HWD-5-02	594.73	10.48	584.25	15:21	
HWD-5-03	596.34	12.49	583.85	15:23	
HWD-5-04	594.09	11.06	583.03	15:36	
HWD-5-05	594.17	11.78	582.39	15:40	
P-14	592.23	4.27	587.96	15:10	
P-15	595.91	9.37	586.54	15:18	
P-16	597.09	13.52	583.57	15:25	
Lake on E.	587.46	3.58	583.88	15:28	
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Weather Conditions Prior to Measurement Event: Sunny and dry the preceding 4 days. Heavy rains (2") the whole week preceding the dry weather.

Weather Conditions on Day of Measurements: Sunny, warm (80's), dry.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA JUNE 24, 1984 (SET #3)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	17.51	587.86	11:25	
HWD-2-02	618.6	29.98	588.62	11:40	
HWD-2-03	619.4	30.99	588.41	11:35	
HWD-2-04	621.01	32.74	588.27	11:30	
HWD-2-05	623.81	38.96	584.85	11:00	
HWD-2-06	609.18	23.74	585.44	10:45	
HWD-2-07	600.38	7.58	592.8	11:50	
P-1	603.10	14.89	588.21	11:15	
P-2	616.36	28.40	587.96	11:05	
P-3	616.98	27.19	589.79	11:10	
USGS 238	607.08	21.22	585.86	13:30	Levels measured 6-26-84
USGS 239	615.95	21.08	594.87	13:50	" "
River	589.32	2.3	587.02	11:45	
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Lake Michigan	591.99	11.73	580.26	10:30	First of three*
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HWT-13-01	602.57	17.71	584.86	15:30	
HWT-13-02	603.77	21.24	582.53	12:55	
HWT-13-03	604.13	21.75	582.38	12:57	
HWT-13-04	603.62	21.32	582.3	13:00	
N. Bed HWT-13	606.65	Not obtainable			Only standing water was out in middle of bed
S. Bed HWT-13	606.65	3.48	603.17	13:05	No standing water - top of sludge
P-4	603.85	21.14	582.71	12:50	
P-5	604.07	19.87	584.2	12:45	
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HWT-2-01	595.83	10.11	585.72	14:13	
HWT-2-02	603.81	19.68	584.13	15:50	
HWT-2-03	606.53	22.00	584.53	15:45	
HWT-2-04	606.80	20.29	586.51	15:40	

(SET #3)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-05	604.21	21.32	582.89	12:30	
HWT-2-06	604.32	22.17	582.15	12:25	
HWT-2-07	603.55	17.78	585.77	12:35	
HWT-2-08	589.68	7.18	582.5	16:00	
HWT-2-09	609.36	28.13	581.23	16:10	
HWT-2-10	591.25	2.57	588.68	13:30	
E. Lagoon HWT-2	605.13	5.30	599.83	12:40	
W. Lagoon HWT-2	606.80	16.43	590.37	-	Level surveyed 6-26
P-6	606.92	21.87	585.05	15:35	
P-7	601.86	17.33	584.53	15:20	
P-8	606.72	21.13	585.59	15:15	
P-9	605.79	21.42	584.37	15:17	
P-10	592.27	6.12	586.15	14:00	
P-11	596.94	10.93	586.01	14:10	
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HWT-14-01	592.74	8.45	584.29	13:42	
HWT-14-02	592.48	7.00	585.48	13:55	
HWT-14-03	592.07	6.54	585.53	13:52	
HWT-14-04	591.18	5.40	585.78	13:50	
HWT-14-05	590.79	6.66	584.13	13:35	
Separator Lagoons	590.30	6.26	584.04	13:45	
P-12	594.80	8.58	586.22	14:05	
P-13	592.80	7.94	584.86	13:20	
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HWD-5-01	589.42	4.03	585.39	14:30	
HWD-5-02	594.73	10.74	583.99	14:35	
HWD-5-03	596.34	12.74	583.6	14:40	
HWD-5-04	594.09	11.19	582.9	14:55	
HWD-5-05	594.17	11.86	582.31	15:05	
P-14	592.23	4.87	587.36	14:25	
P-15	595.91	10.11	585.8	14:35	
P-16	597.09	13.58	583.51	14:45	
Lake on E.	587.46	3.45	584.01	14:50	
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Weather Conditions Prior to Measurement Event: 0.49" of rain on 3 days prior to sampling. Conditions generally dry and sunny with variable winds for the week preceding the rain.

Weather Conditions on Day of Measurements: Sunny, mid to upper 70's, slight chop on lake with moderate northerly winds.

*Second Lake Michigan measurement - 11.98 at 12:00 (580.01)

*Third Lake Michigan measurement - 11.95 at 16:30 (580.04)

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA AUGUST 4, 1984 (SET #4)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.03	587.34	16:50	
HWD-2-02	618.6	30.58	588.02	17:10	
HWD-2-03	619.4	31.62	587.78	17:05	
HWD-2-04	621.01	33.31	587.70	17:00	
HWD-2-05	623.81	39.32	584.49	16:35	
HWD-2-06	609.18	23.89	585.29	16:30	
HWD-2-07	600.38	8.30	592.08	17:20	
P-1	603.10	15.34	587.76	16:45	
P-2	616.36	28.94	587.42	16:35	
P-3	616.98	27.70	588.38	16:40	
USGS 238	607.08	21.87	585.21	11:20	
USGS 239	615.95	22.04	593.91	10:55	
River	589.32	2.65	586.67	10:50	
Lake Michigan	591.99	11.80	580.19	10:40	*First Measurement
HWT-13-01	602.57	18.32	584.25	13:10	
HWT-13-02	603.77	21.65	582.12	14:05	
HWT-13-03	604.13	22.09	582.04	14:00	
HWT-13-04	603.62	21.66	581.96	13:55	
N. Bed HWT-13	606.65	No Surface Water			
S. Bed HWT-13	606.65	No Surface Water			
P-4	603.85	21.59	582.26	14:15	
P-5	604.07	20.50	583.57	14:15	
HWT-2-01	595.83	11.03	584.80	13:05	
HWT-2-02	603.81	20.80	583.01	13:30	
HWT-2-03	606.53	22.86	583.67	13:35	
HWT-2-04	606.80	21.24	585.56	13:40	
HWT-2-05	604.21	21.71	582.50	14:35	
HWT-2-06	604.32	22.48	581.84	14:30	
HWT-2-07	603.55	18.87	584.68	14:25	

(SET #4)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-08	589.68	7.46	582.22	15.10	
HWT-2-09	609.36	28.33	581.03	15:00	
HWT-2-10	591.25	4.18	587.07	12:25	
E. Lagoon HWT-2	605.13	Could not determine-sludge surrounding pipe discharge area			
W. Lagoon HWT-2	606.80	Cannot Survey			
P-6	606.92	22.68	584.24	13:45	
P-7	601.86	17.90	583.96	13:15	
P-8	606.72	22.24	584.48	13:25	
P-9	605.79	22.00	583.79	13:20	
P-10	592.27	7.16	585.11	12:40	
P-11	596.94	11.95	584.99	13:00	
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HWT-14-01	592.74	8.98	583.76	12:30	
HWT-14-02	592.48	7.87	584.61	12:45	
HWT-14-03	592.07	7.42	584.65	12:45	
HWT-14-04	591.18	6.30	584.88	12:50	
HWT-14-05	590.79	9.79	581.00	12:20	
Separator Lagoons	590.30	6.65	583.65	12:35	Level measured on west side due to east pit being closed
P-12	594.80	9.60	585.20	12:55	
P-13	592.80	8.58	584.22	12:10	
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HWD-5-01	589.42	5.07	584.35	15:25	
HWD-5-02	594.73	11.25	583.48	15:30	
HWD-5-03	596.34	13.15	583.19	15:30	
HWD-5-04	594.09	11.50	582.59	16:00	
HWD-5-05	594.17	12.14	582.03	15:55	
P-14	592.23	9.36	582.87**	15:20	
P-15	595.91	10.96	584.95	15:30	
P-16	597.09	13.95	583.14	15:35	
Lake on E.	587.46	3.86	583.60	15:45	
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(SET #4)
- Continued -

Weather Conditions Prior to Measurement Event: A total of 0.30" of rain measured at Gary Works the 3 weeks preceding the sampling. Temperatures during this time period have ranged between a high of 92°F on the 13th and 23rd and a low of 60°F on the 19th. Avg. approx. 75-78°F.

Weather Conditions on Day of Measurements: Hot, humid and sunny. Wind out of north at less than 5 mph. Lake Michigan - calm to very slight chop.

Other Notes:

*2nd Lake Michigan Level Measurement - 11.66' (580.33)

*3rd Lake Michigan Level Measurement - 11.72' (580.27)

**Based on an office review of all groundwater level data compiled, this field measurement is suspected to be in error, since this value significantly differs from the general patterns seen in other measurement events. Therefore, this value was not used in deriving the groundwater contour map for this period.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA SEPTEMBER 2, 1984 (SET #5)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.26	587.11	10:47	
HWD-2-02	618.6	30.91	587.69	11:10	
HWD-2-03	619.4	31.98	587.42	11:05	
HWD-2-04	621.01	33.65	587.36	11:00	
HWD-2-05	623.81	39.40	584.41	9:45	
HWD-2-06	609.18	24.02	585.16	9:37	
HWD-2-07	600.38	8.87	591.51	11:20	
P-1	603.10	15.59	587.51	10:42	
P-2	616.36	29.28	587.08	10:25	
P-3	616.98	28.19	588.79	10:30	
USGS 238	607.08	22.25	584.83	10:10	
USGS 239	615.95	22.74	593.21	11:35	
River	589.32	2.70	586.62	11:15	
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Lake Michigan	591.99	11.36	580.63	9:30	*First Measurement
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HWT-13-01	602.57	18.28	584.29	16:00	
HWT-13-02	603.77	21.63	582.14	12:30	
HWT-13-03	604.13	22.15	581.98	12:22	
HWT-13-04	603.62	21.76	581.86	12:15	
N. Bed HWT-13	606.65	Beds being dug out			
S. Bed HWT-13	606.65	Beds being dug out			
P-4	603.85	21.79	582.06	12:41	
P-5	604.07	20.52	583.55	12:36	
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HWT-2-01	595.83	11.27	584.56	15:08	
HWT-2-02	603.81	20.94	582.87	14:30	
HWT-2-03	606.53	23.06	583.47	14:35	
HWT-2-04	606.80	22.16	584.64	14:40	
HWT-2-05	604.21	21.82	582.39	13:05	
HWT-2-06	604.32	22.03	582.29	12:59	
HWT-2-07	603.55	19.38	584.17	12:55	

(SET #5)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-08	589.68	7.55	582.13	15.50	
HWT-2-09	609.36	28.45	580.91	15:45	
HWT-2-10	591.25	4.96	586.29	13:30	
E. Lagoon HWT-2	605.13	6.3	598.83	12:50	Estimate
W. Lagoon HWT-2	606.80	Cannot Survey			
P-6	606.92	22.78	584.14	14:45	
P-7	601.86	17.78	584.08	15:00	
P-8	606.72	22.67	584.05	14:50	
P-9	605.79	21.75	584.04	14:55	
P-10	592.27	7.56	584.71	15:25	
P-11	596.94	12.34	584.60	15:05	
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HWT-14-01	592.74	8.83	583.91	15:20	
HWT-14-02	592.48	7.87	584.61	15:30	
HWT-14-03	592.07	7.32	584.75	15:32	
HWT-14-04	591.18	6.30	584.88	15:35	
HWT-14-05	590.79	6.92	583.87	13:22	
Separator Lagoons	590.30	6.45	583.85	15:23	
P-12	594.80	9.87	584.93	15:15	
P-13	592.80	8.72	584.08	13:15	
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HWD-5-01	589.42	5.35	584.07	13:42	
HWD-5-02	594.73	11.35	583.38	13:50	
HWD-5-03	596.34	13.26	583.08	13:55	
HWD-5-04	594.09	11.59	582.50	14:17	
HWD-5-05	594.17	12.20	581.97	14:25	
P-14	592.23	7.03	585.20	13:37	
P-15	595.91	11.34	584.57	13:46	
P-16	597.09	14.02	583.07	14:00	
Lake on E.	587.46	3.90	583.56	14:10	
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Weather Conditions Prior to Measurement Event: Mostly sunny and warm for 2 weeks preceding measurement. There was 0.24" of rain on 8/31.

(SET #5)
- Continued -

Weather Conditions on Day of Measurements: Partly sunny in the morning, temperature in upper 70's to low 80's, winds WSW 5 to 15 mph, brief rain shower from 15:20 to 15:45, less than .05" precipitation-very light chop on lake.

Other Notes:

*Second Lake Michigan Measurement - 11.38' (580.61)
*Third Lake Michigan Measurement - 11.61' (580.38)

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA SEPTEMBER 16, 1984 (SET #6)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.76	587.11	11:57	
HWD-2-02	618.6	31.02	587.58	12:20	
HWD-2-03	619.4	32.11	587.29	12:15	
HWD-2-04	621.01	33.82	587.19	12:10	
HWD-2-05	623.81	39.49	584.32	10:40	
HWD-2-06	609.18	24.02	585.16	10:45	
HWD-2-07	600.38	9.08	591.30	12:40	
P-1	603.10	15.67	587.43	11:52	
P-2	616.36	29.44	586.92	11:35	
P-3	616.98	28.40	588.58	11:40	
USGS 238	607.08	22.25	584.83	11:15	
USGS 239	615.95	23.02	592.93	12:35	
River	589.32	2.75	586.57	12:25	
<hr/>					
Lake Michigan	591.99	11.95	580.04	10:30	First Measurement
Lake Michigan		12.12	579.87	12:45	Second Measurement
Lake Michigan		12.17	579.82	17:30	Third Measurement
<hr/>					
HWT-13-01	602.57	18.36	584.21	17:15	
HWT-13-02	603.77	21.56	582.21	13:40	
HWT-13-03	604.13	22.06	582.07	13:35	
HWT-13-04	603.62	21.67	581.95	13:27	
N. Bed HWT-13	606.65	Both of the sludge drying beds have been dug out and are currently empty			
S. Bed HWT-13	606.65				
P-4	603.85	21.82	582.03	13:55	
P-5	604.07	20.56	583.51	13:45	
<hr/>					
HWT-2-01	595.83	11.42	584.41	16:15	
HWT-2-02	603.81	20.86	582.95	15:40	
HWT-2-03	606.53	23.19	583.61	15:45	
HWT-2-04	606.80	22.67	584.13	15:50	
HWT-2-05	604.21	21.77	582.44	15:55	

(SET #6)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.54	581.78	14:00	
HWT-2-07	603.55	19.64	583.91	14:05	
HWT-2-08	589.68	7.41	582.27	13.10	
HWT-2-09	609.36	28.28	581.08	13:15	
HWT-2-10	591.25	5.15	586.10	16:50	
E. Lagoon HWT-2	605.13	6.3	598.8	13:57	Estimate
W. Lagoon HWT-2	606.80	Cannot Survey			
P-6	606.92	22.97	583.95	16:00	
P-7	601.86	17.89	583.97	16:10	
P-8	606.72	22.90	583.82	16:05	
P-9	605.79	21.70	584.09	16:07	
P-10	592.27	7.74	584.53	16:35	
P-11	596.94	12.45	584.49	16:25	
<hr/>					
HWT-14-01	592.74	8.94	583.80	16:30	
HWT-14-02	592.48	8.12	584.36	16:40	
HWT-14-03	592.07	7.63	584.44	16:45	
HWT-14-04	591.18	6.55	584.63	16:43	
HWT-14-05	590.79	6.95	583.84	16:55	
Separator Lagoons	590.30	6.68	583.62	16:32	Reading taken from west influent chamber
<hr/>					
P-12	594.80	9.95	584.85	16:27	
P-13	592.80	8.77	584.03	14:20	
<hr/>					
HWD-5-01	589.42	5.40	584.02	14:30	
HWD-5-02	594.73	11.36	583.37	14:40	
HWD-5-03	596.34	13.25	583.09	14:43	
HWD-5-04	594.09	11.38	582.71	14:45	
HWD-5-05	594.17	11.97	582.20	14:50	
P-14	592.23	7.10	585.13	14:35	
P-15	595.91	11.44	584.47	14:37	
P-16	597.09	14.00	583.09	15:10	
Lake on E.	587.46	3.86	583.60	15:20	
<hr/>					

(SET #6)
- Continued -

Weather Conditions Prior to Measurement Event: Rainfall on 9/15 of 0.13", on 9/13 of 0.14", on 9/12 of 0.08". Temperatures on the cool side.

Weather Conditions on Day of Measurements: Sunny, low 70's, wind from the north at 10 to 15 mph. Slight to moderate chop in the slip. 1' to 2' waves on Lake Michigan.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA OCTOBER 7, 1984 (SET #7)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.33	587.04	16:30	
HWD-2-02	618.6	31.20	587.40	16:50	
HWD-2-03	619.4	32.25	587.15	16:45	
HWD-2-04	621.01	33.97	587.04	16:40	
HWD-2-05	623.81	39.75	584.06	16:15	
HWD-2-06	609.18	24.15	585.03	16:30	
HWD-2-07	600.38	9.20	591.18	17:00	
P-1	603.10	15.78	587.32	16:25	
P-2	616.36	29.66	586.70	16:15	
P-3	616.98	28.57	588.41	16:20	
USGS 238	607.08	22.37	584.71	11:00	
USGS 239	615.95	23.31	592.64	10:35	
River	589.32	2.75	586.57	10:30	
<hr/>					
Lake Michigan	591.99	11.94	580.05	10:20	First Measurement
Lake Michigan		11.80	580.19	16:00	Second Measurement
Lake Michigan		11.76	580.23	17:10	Third Measurement
<hr/>					
HWT-13-01	602.57	18.35	584.22	12:50	
HWT-13-02	603.77	21.58	582.19	13:45	
HWT-13-03	604.13	22.07	582.06	13:40	
HWT-13-04	603.62	21.65	581.97	13:35	
N. Bed HWT-13	606.65	Recently reactivated and approx. 1/2 full			
S. Bed HWT-13	606.65	Empty			
P-4	603.85	21.05	582.80	13:55	
P-5	604.07	20.35	583.72	13:55	
<hr/>					
HWT-2-01	595.83	11.28	584.55	12:45	
HWT-2-02	603.81	20.99	582.82	13:10	
HWT-2-03	606.53	22.88	583.65	13:15	
HWT-2-04	606.80	20.65	586.15	13:20	
HWT-2-05	604.21	21.78	582.43	14:15	

(SET #7)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.58	581.74	14:10	
HWT-2-07	603.55	19.20	584.35	14:05	
HWT-2-08	589.68	7.71	581.97	14.50	
HWT-2-09	609.36	28.44	580.92	14:40	
HWT-2-10	591.25	4.97	586.28	12:05	
E. Lagoon HWT-2	605.13	6.6	598.53	14:00	Estimate
W. Lagoon HWT-2	606.80	Could not determine			
P-6	606.92	22.66	584.26	13:25	
P-7	601.86	17.88	583.98	13:00	
P-8	606.72	22.09	584.63	13:05	
P-9	605.79	21.88	583.91	12:55	
P-10	592.27	7.72	584.55	12:20	
P-11	596.94	12.38	584.56	12:40	
<hr/>					
HWT-14-01	592.74	8.96	583.78	12:10	
HWT-14-02	592.48	8.19	584.29	12:25	
HWT-14-03	592.07	7.73	584.75	12:27	
HWT-14-04	591.18	6.60	584.58	12:30	
HWT-14-05	590.79	6.80	583.99	12:00	
Separator Lagoons	590.30	6.73	583.57	12:15	
P-12	594.80	9.87	584.93	12:35	
P-13	592.80	8.71	584.09	11:50	
<hr/>					
HWD-5-01	589.42	5.36	584.06	15:05	
HWD-5-02	594.73	11.42	583.31	15:10	
HWD-5-03	596.34	13.26	583.08	15:12	
HWD-5-04	594.09	11.74	582.35	15:40	
HWD-5-05	594.17	12.45	581.72	15:35	
P-14	592.23	7.06	585.17	15:00	
P-15	595.91	11.36	584.55	15:10	
P-16	597.09	14.11	582.98	15:15	
Lake on E.	587.46	3.95	583.51	15:25	
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(SET #7)
- Continued -

Weather Conditions Prior to Measurement Event: Precipitation occurred on 10/6 through 10/8 for total rainfall of 0.19". The two weeks prior to sampling were relatively wet. There was a total of 1.64" of rain in last 9 days of September.

Weather Conditions on Day of Measurements: Moderate temps. (60's), winds from the south at 5 to 10 mph. Lake Michigan - Calm. Overcast with light rain all day.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA OCTOBER 22-25, 1984 (SET #8)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Date/Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.55	586.82	22/10:10	
HWD-2-02	618.6	31.47	587.13	22/13:10	
HWD-2-03	619.4	32.45	586.95	22/11:35	
HWD-2-04	621.01	34.18	586.83	22/11:20	
HWD-2-05	623.81	40.05	583.76	22/15:05	
HWD-2-06	609.18	24.4	584.78	22/15:30	
HWD-2-07	600.38	9.48	590.9	22/14:25	
P-1	603.10	15.93	587.17	22/11:15	
P-2	616.36	30.03	586.33	22/16:35	
P-3	616.98	28.99	588.0	22/16:30	
USGS 238	607.08				Not measured
USGS 239	615.95				Not measured
River	589.32	2.67	586.65	22/14:15	
Lake Michigan	591.99	12.53	579.46	22/16:45	
HWT-13-01	602.57	18.41	584.16	23/10:55	
HWT-13-02	603.77	21.51	582.26	23/ 9:40	
HWT-13-03	604.13	22.06	582.07	23/ 8:20	
HWT-13-04	603.62	21.65	581.97	23/ 8:05	
N. Bed HWT-13	606.65				Full
S. Bed HWT-13	606.65			23/16:15	Dry - Dug out
P-4	603.85	20.08	583.77	23/ 9:05	
P-5	604.07	20.15	583.92	23/10:45	
HWT-2-01	595.83	11.21	584.62	24/10:35	
HWT-2-02	603.81	21.19	582.62	24/ 9:28	
HWT-2-03	606.53	23.31	583.22	24/ 8:48	
HWT-2-04	606.80	21.54	585.26	24/ 8:13	
HWT-2-05	604.21	21.91	582.3	23/14:30	

(SET #8)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Date/Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.65	581.67	23/14:20	
HWT-2-07	603.55	19.28	584.27	23/12.40	
HWT-2-08	589.68	7.68	582.0	23/16:28	
HWT-2-09	609.36	28.63	580.73	22/17:00	
HWT-2-10	591.25	6.2	585.05	24/15:54	
E. Lagoon HWT-2	605.13	6.3	598.83	23/16:05	
W. Lagoon HWT-2	606.80				Low water level
P-6	606.92	23.02	583.9	24/10:30	
P-7	601.86	17.98	583.88	24/ 8:05	
P-8	606.72	23.81	582.91	24/10:40	
P-9	605.79	22.0	583.79	24/ 7:55	
P-10	592.27	9.13	583.14	24/14:48	
P-11	596.94	12.3	584.64	24/11:10	
<hr/>					
HWT-14-01	592.74	10.81	581.93	24/14:54	
HWT-14-02	592.48	9.76	582.72	24/14:01	
HWT-14-03	592.07	9.22	582.85	24/13:26	
HWT-14-04	591.18	6.33	584.85	24/13:17	
HWT-14-05	590.79	8.38	582.41	24/16:35	
Separator Lagoons	590.30	7.08	583.22	24/15:20	
P-12	594.80	11.14	583.66	24/17:20	
P-13	592.80	10.1	582.7	24/17:08	
<hr/>					
HWD-5-01	589.42	4.93	584.49	25/ 8:20	
HWD-5-02	594.73	11.44	583.29	25/ 9:15	
HWD-5-03	596.34	13.18	583.16	25/ 8:38	
HWD-5-04	594.09	11.87	582.22	25/10:55	
HWD-5-05	594.17	12.46	581.71	23/16:50	
P-14	592.23	6.5	585.73	25/12:13	
P-15	595.91	11.1	584.81	25/12:20	
P-16	597.09	14.19	582.9	25/12:25	
Lake on E.	587.46	3.92	583.54	25/12:30	
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(SET #8)
- Continued -

Weather Conditions Prior to Measurement Event:

Weather Conditions on Day of Measurements: Dry entire period.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA DECEMBER 2, 1984 (SET #9)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.33	587.04	11:35	
HWD-2-02	618.6	31.33	587.27	11:20	
HWD-2-03	619.4	32.34	587.06	11:15	
HWD-2-04	621.01	34.06	586.95	11:10	
HWD-2-05	623.81	39.76	584.05	10:55	
HWD-2-06	609.18	24.15	585.03	—	11:40
HWD-2-07	600.38	9.44	590.94	10:25	
P-1	603.10	15.79	587.31	11:30	
P-2	616.36	29.79	586.57	11:00	
P-3	616.98	28.80	588.18	11:05	
USGS 238	607.08	22.30	584.78	10:45	
USGS 239	615.95	23.21	592.74	10:20	
River	589.32	2.7	586.62	10:15	
<hr/>					
Lake Michigan	591.99	12.58	579.41	10:00	First Measurement
Lake Michigan	591.99	12.55	579.44	11:45	Second Measurement
Lake Michigan	591.99	12.50	579.49	15:45	Third Measurement
<hr/>					
HWT-13-01	602.57	17.98	584.59	15:25	
HWT-13-02	603.77	21.50	582.27	14:20	
HWT-13-03	604.13	21.45	582.68	14:17	
HWT-13-04	603.62	21.53	582.09	14:15	
N. Bed HWT-13	606.65	Mostly full			Unable to obtain
S. Bed HWT-13	606.65	Mostly empty			
P-4	603.85	20.87	582.98	14:27	
P-5	604.07	19.90	584.17	14:25	
<hr/>					
HWT-2-01	595.83	10.75	585.08	14:05	
HWT-2-02	603.81	20.65	583.16	14:55	
HWT-2-03	606.53	22.90	583.63	14:57	
HWT-2-04	606.80	22.15	584.65	15:00	
HWT-2-05	604.21	21.58	582.63	14:45	

(SET #9)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.48	581.84	14:42	
HWT-2-07	603.55	18.46	585.09	14:40	
HWT-2-08	589.68	7.40	582.28	12:00	
HWT-2-09	609.36	28.44	580.92	12:05	
HWT-2-10	591.25	4.02	587.23	12:50	
E. Lagoon HWT-2	605.13	6.05	599.08	14:35	Estimate
W. Lagoon HWT-2	602.459	14.49	587.97		Determined 12/4/84
P-6	606.92	22.56	584.36	15:05	
P-7	601.86	17.47	584.39	15:20	
P-8	606.72	22.48	584.24	15:10	
P-9	605.79	21.48	584.31	15:12	
P-10	592.27	6.94	585.33	13:30	
P-11	596.94	11.75	585.19	14:00	
<hr/>					
HWT-14-01	592.74	8.94	583.80	13:20	
HWT-14-02	592.48	7.73	584.75	13:35	
HWT-14-03	592.07	7.26	584.81	13:40	
HWT-14-04	591.18	6.24	584.94	13:45	
HWT-14-05	590.79	6.50	584.29	13:00	
Separator Lagoons	590.30	6.93	583.37	13:50	
P-12	594.80	9.01	585.79	13:15	
P-13	592.80	8.14	584.66	13:07	
<hr/>					
HWD-5-01	589.42	4.61	584.81	12:35	
HWD-5-02	594.73	10.98	583.75	12:25	
HWD-5-03	596.34	12.87	583.47	12:27	
HWD-5-04	594.09	11.49	582.60	12:12	Extensive excavation in this area. Well is ~ 4' above sur- rounding area.
HWD-5-05	594.17	12.35	581.82	12:10	
P-14	592.23	5.96	586.27	12:40	
P-15	595.91	10.65	585.26	12:33	
P-16	597.09	13.77	583.32	12:30	
Lake on E.	587.46	3.83	583.63	12:20	
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(SET #9)
- Continued -

Weather Conditions Prior to Measurement Event: Seasonable temps. -0.88" rain measured on 11/26-27/84. Winds generally from west and south.

Weather Conditions on Day of Measurements: Cold - slight drizzle. Wind from south 5 to 15 mph. Temperature ~ 35-40°F. Lake surface - relatively calm.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA DECEMBER 29, 1984 (SET #10)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.36	587.01	11:30	
HWD-2-02	618.6	31.28	587.32	11:35	
HWD-2-03	619.4	32.30	587.10	11:38	
HWD-2-04	621.01	34.06	586.95	11:40	
HWD-2-05	623.81	39.68	584.13	12:30	
HWD-2-06	609.18	24.09	585.09	13:05	
HWD-2-07	600.38	9.49	590.89	11:15	
P-1	603.10	15.79	587.31	11:25	
P-2	616.36	29.79	586.57	11:55	
P-3	616.98	28.86	588.12	11:50	
USGS 238	607.08	21.85	585.23	12:45	
USGS 239	615.95	23.49	592.46	11:05	
River	589.32	2.60	586.72	11:10	
<hr/>					
Lake Michigan	591.99	12.29	579.70	10:55	
Lake Michigan	591.99	12.90	579.09	13:15	
<hr/>					
HWT-13-01	602.57	18.14	584.43	15:30	
HWT-13-02	603.77	21.52	582.25	13:45	
HWT-13-03	604.13	22.06	582.07	13:45	
HWT-13-04	603.62	21.66	581.96	13:40	
N. Bed HWT-13	606.65	Mostly full			Unable to take measurements
S. Bed HWT-13	606.65	Mostly empty			
P-4	603.85	20.92	582.93	13:55	
P-5	604.07	20.07	584.00	13:50	
<hr/>					
HWT-2-01	595.83	10.49	585.34	15:25	
HWT-2-02	603.81	20.78	583.03	16:00	
HWT-2-03	606.53	22.02	584.51	15:58	
HWT-2-04	606.80	22.10	584.70	15:55	
HWT-2-05	604.21	21.81	582.40	14:10	

(SET #10)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.68	581.64	14:05	
HWT-2-07	603.55	18.53	585.02	14:02	
HWT-2-08	589.68	7.79	581.89	16:50	
HWT-2-09	609.36	28.79	580.57	17:00	
HWT-2-10	591.25	3.39	587.86	14:40	
E. Lagoon HWT-2	605.13	6.02	599.11	14:00	
W. Lagoon HWT-2	606.80				Not measured
P-6	606.92	22.67	584.25	15:50	
P-7	601.86	17.53	584.29	15:35	
P-8	606.72	22.62	584.10	15:45	
P-9	605.79	12.51	593.28*	15:40	
P-10	592.27	6.89	585.38	14:57	
P-11	596.94	11.63	585.31	15:20	
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HWT-14-01	592.74	8.84	583.90	14:50	
HWT-14-02	592.48	7.76	584.72	15:00	
HWT-14-03	592.07	7.24	584.83	15:05	
HWT-14-04	591.18	6.07	585.11	15:07	
HWT-14-05	590.79	6.40	584.39	14:35	
Separator Lagoons	590.30	6.83	583.47	14:50	
P-12	594.80	8.96	585.84	15:15	
P-13	592.80	8.11	584.69	14:30	
<hr/>					
HWD-5-01	589.42	4.43	584.99	16:25	
HWD-5-02	594.73	11.24	583.49	16:20	
HWD-5-03	596.34	13.18	583.16	16:15	
HWD-5-04	594.09	11.80	582.29	16:45	
HWD-5-05	594.17	12.55	581.62	16:35	
P-14	592.23	6.65	585.58	16:30	
P-15	595.91	10.64	585.27	16:20	
P-16	597.09	14.07	583.02	16:12	
Lake on E.	587.46	4.10	583.36	16:10	
<hr/>					

(SET #10)
- Continued -

Weather Conditions Prior to Measurement Event: Wet ground with above average temps.
Very little snowfall.

Weather Conditions on Day of Measurements: Drastic drop in temp. 63°-35°F, brisk
north wind, 0.22" rain, moderate chop on Lake Michigan.

Other Notes:

*Based on an office review of all groundwater level data compiled, this field measurement
is suspected to be in error, since this value significantly differs from the general pat-
terns seen in other measurmenet events. Therefore, this value was not used in deriving
the groundwater contour map for this period.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA JANUARY 29, 1985 (SET #11)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	18.21	587.16	16:15	
HWD-2-02	618.6	30.86	587.74	16:00	
HWD-2-03	619.4	31.84	587.56	15:55	
HWD-2-04	621.01	33.57	587.44	15:50	
HWD-2-05	623.81	39.34	584.47	16:25	
HWD-2-06	609.18	23.99	585.19	16:40	
HWD-2-07	600.38	8.99	591.39	15:30	
P-1	603.10	15.51	587.59	16:10	
P-2	616.36	29.20	587.16	15:40	
P-3	616.98	28.19	588.79	15:32	
USGS 238	607.08				Not measured
USGS 239	615.95				Not measured
River	589.32				Frozen
<hr/>					
Lake Michigan	591.99				Frozen
<hr/>					
HWT-13-01	602.57	17.94	584.63	12:42	
HWT-13-02	603.77	21.19	582.58	13:55	
HWT-13-03	604.13	21.71	582.46	13:50	
HWT-13-04	603.62	21.30	582.32	13:45	
N. Bed HWT-13	606.65				Not measured - frozen
S. Bed HWT-13	606.65	4.38	602.27	14:15	Frozen
P-4	603.85	21.00	582.85	14:00	
P-5	604.07	19.59	584.48	14:08	
<hr/>					
HWT-2-01	595.83	10.58	585.25	13:30	
HWT-2-02	603.81	19.91	583.90	14:50	
HWT-2-03	606.53	21.96	584.57	14:45	
HWT-2-04	606.80	19.08	587.72	14:40	
HWT-2-05	604.21	21.43	582.78	14:43	

(SET #11)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev:</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	22.26	582.06	14:25	
HWT-2-07	603.55	18.27	585.28	14:20	
HWT-2-08	589.68	7.19	582.50	14:55	
HWT-2-09	609.36	28.37	580.99	15:05	
HWT-2-10	591.25	3.81	587.44	11:40	
E. Lagoon HWT-2	605.13				Frozen
W. Lagoon HWT-2	606.80				Frozen
P-6	606.92	22.63	585.29	12:50	
P-7	601.86	17.20	584.66	13:05	
P-8	606.72	20.29	586.43	12:55	
P-9	605.79	21.00	584.79	13:00	
P-10	592.27	6.84	585.43	12:30	
P-11	596.94	11.55	585.39	13:15	
<hr/>					
HWT-14-01	592.74	9.02	583.72	11:25	
HWT-14-02	592.48	7.66	584.82	12:27	
HWT-14-03	592.07	7.02	585.05	12:25	
HWT-14-04	591.18	6.09	585.09	12:15	
HWT-14-05	590.79	5.30	585.49	12:00	
Separator Lagoons	590.30	6.90	583.40	11:30	
P-12	594.80	9.05	585.75	12:35	
P-13	592.80	8.05	584.75	11:55	
<hr/>					
HWD-5-01	589.42	4.76	584.66	11:20	
HWD-5-02	594.73	13.00	581.73	11:04	
HWD-5-03	596.34	13.88	582.46	11:06	
HWD-5-04	594.09	11.36	582.73	10:45	
HWD-5-05	594.17	12.19	581.98	10:55	
P-14	592.23	5.81	586.42	11:15	
P-15	595.91	10.77	585.14	11:10	
P-16	597.09	11.04	586.05*	11:00	
Lake on E.	587.46	4.88	582.58	10:50	
<hr/>					

(SET #11)
- Continued -

Weather Conditions Prior to Measurement Event: Clear, dry, cold.

Weather Conditions on Day of Measurements: Clear, dry, cold.

Other Notes:

*Based on an office review of all groundwater level data compiled, this field measurement is suspected to be in error, since this value significantly differs from the general patterns seen in other measurement events. Therefore, this value was not used in deriving the groundwater contour map for this period.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA MARCH 1, 1985 (SET #12)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	17.77	587.60	14:33	
HWD-2-02	618.6	30.43	588.17	14:40	
HWD-2-03	619.4	31.39	588.01	14:45	
HWD-2-04	621.01	33.15	587.86	14:50	
HWD-2-05	623.81	38.95	584.86	15:15	
HWD-2-06	609.18	23.65	585.53	15:20	
HWD-2-07	600.38	8.46	591.92	14:10	
P-1	603.10	15.02	588.08	14:30	
P-2	616.36	28.78	587.58	15:00	
P-3	616.98	27.95	589.03	14:55	
USGS 238	607.08				Not measured
USGS 239	615.95	21.12	594.83	14:20	
River	589.32	2.34	586.98		
<hr/>					
Lake Michigan	591.99	12.48	579.51	14:00	
<hr/>					
HWT-13-01	602.57	17.73	585.24	10:10	
HWT-13-02	603.77	20.63	583.14	12:20	
HWT-13-03	604.13	21.23	582.90	12:15	
HWT-13-04	603.62	20.90	582.72	12:10	
N. Bed HWT-13	606.65				Not measured
S. Bed HWT-13	606.65	2.08	604.57	12:35	
P-4	603.85	20.24	583.61	12:25	
P-5	604.07	18.87	585.20	12:30	
<hr/>					
HWT-2-01	595.83	9.53	586.32	10:40	
HWT-2-02	603.81	19.82	583.99	13:20	
HWT-2-03	606.53	22.08	584.45	13:15	
HWT-2-04	606.80	20.13	586.67	13:10	
HWT-2-05	604.21	20.99	583.22	13:00	

(SET #12)
- Continued -

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	21.84	582.48	12:55	
HWT-2-07	603.55	16.94	586.61	12:45	
HWT-2-08	589.68	6.75	582.93	13:45	
HWT-2-09	609.36	28.00	581.36	13:35	
HWT-2-10	591.25	2.52	588.73	11:15	
E. Lagoon HWT-2	605.13	5.82	599.31	12:50	
W. Lagoon HWT-2	606.80				
P-6	606.92	12.16	594.76	10:20	
P-7	601.86	16.59	585.27	10:50	
P-8	606.72	12.35	594.37	10:25	
P-9	605.79	20.59	585.20	10:30	
P-10	592.27	5.50	586.77	09:55	
P-11	596.94	10.44	586.50	10:45	
<hr/>					
HWT-14-01	592.74	8.26	584.48	09:30	
HWT-14-02	592.48	6.57	585.91	09:50	
HWT-14-03	592.07	6.08	585.99	10:05	
HWT-14-04	591.18	4.88	586.30	10:00	
HWT-14-05	590.79	6.86	583.93	11:10	
Separator Lagoons	590.30	6.63	583.67	09:40	
P-12	594.80	7.57	587.23	09:45	
P-13	592.80	6.95	585.85	11:25	
<hr/>					
HWD-5-01	589.42	3.10	586.32	08:25	
HWD-5-02	594.73	10.38	584.35	08:35	
HWD-5-03	596.34	12.53	583.81	08:45	
HWD-5-04	594.09	11.00	583.09	09:15	
HWD-5-05	594.17	11.89	582.28	09:05	
P-14	592.23	4.48	587.75	08:20	
P-15	595.91	9.66	586.25	08:30	
P-16	597.09	13.42	583.67	08:50	
Lake on E.	587.46	3.44	584.02	08:55	
<hr/>					

(SET #12)
- Continued -

Weather Conditions Prior to Measurement Event: Clear and calm on day before heavy rain and rapid snow melt one week prior to measurements.

Weather Conditions on Day of Measurements: Cloudy, drizzle and light rain.

GARY WORKS GROUNDWATER FLOW PROJECT

SUMMARY OF WATER LEVEL DATA APRIL 15-16, 1985 (SET #13)

<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Date/Time of Measurement</u>	<u>Remarks</u>
HWD-2-01	605.37	17.67	587.70	15/12:05	
HWD-2-02	618.6	30.37	588.23	15/11:55	
HWD-2-03	619.4	31.37	588.03	15/11:50	
HWD-2-04	621.01	33.15	587.86	15/11:45	
HWD-2-05	623.81	38.99	584.82	16/12:10	
HWD-2-06	609.18	23.87	585.31	16/12:45	
HWD-2-07	600.38	8.29	592.10	16/11:10	
P-1	603.10	15.03	588.07	15/12:10	
P-2	616.36	27.78	588.58	16/11:55	
P-3	616.98	27.70	589.28	16/11:50	
USGS 238	607.08	21.02	586.06	16/12:25	
USGS 239	615.95				Missing
River	589.32	2.26	587.06	16/11:45	
<hr/>					
Lake Michigan	591.99	10.61	581.38	16/12:50	
<hr/>					
HWT-13-01	602.57	17.04	585.53	15/16:05	
HWT-13-02	603.77	20.55	583.22	15/15:20	
HWT-13-03	604.13	21.08	583.05	15/15:15	
HWT-13-04	603.62	20.78	582.84	15/15:10	
N. Bed HWT-13	606.65				
S. Bed HWT-13	606.65				
P-4	603.85	20.53	583.32	15/15:25	
P-5	604.07	18.91	585.16	15/15:25	
<hr/>					
HWT-2-01	595.83	9.42	586.41	15/16:25	
HWT-2-02	603.81	20.02	583.79	15/15:55	
HWT-2-03	606.53	22.33	584.20	15/16:00	
HWT-2-04	606.80	21.16	585.64	15/16:05	
HWT-2-05	604.21	20.95	583.26	15/15:45	

(SET #13)
- Continued -

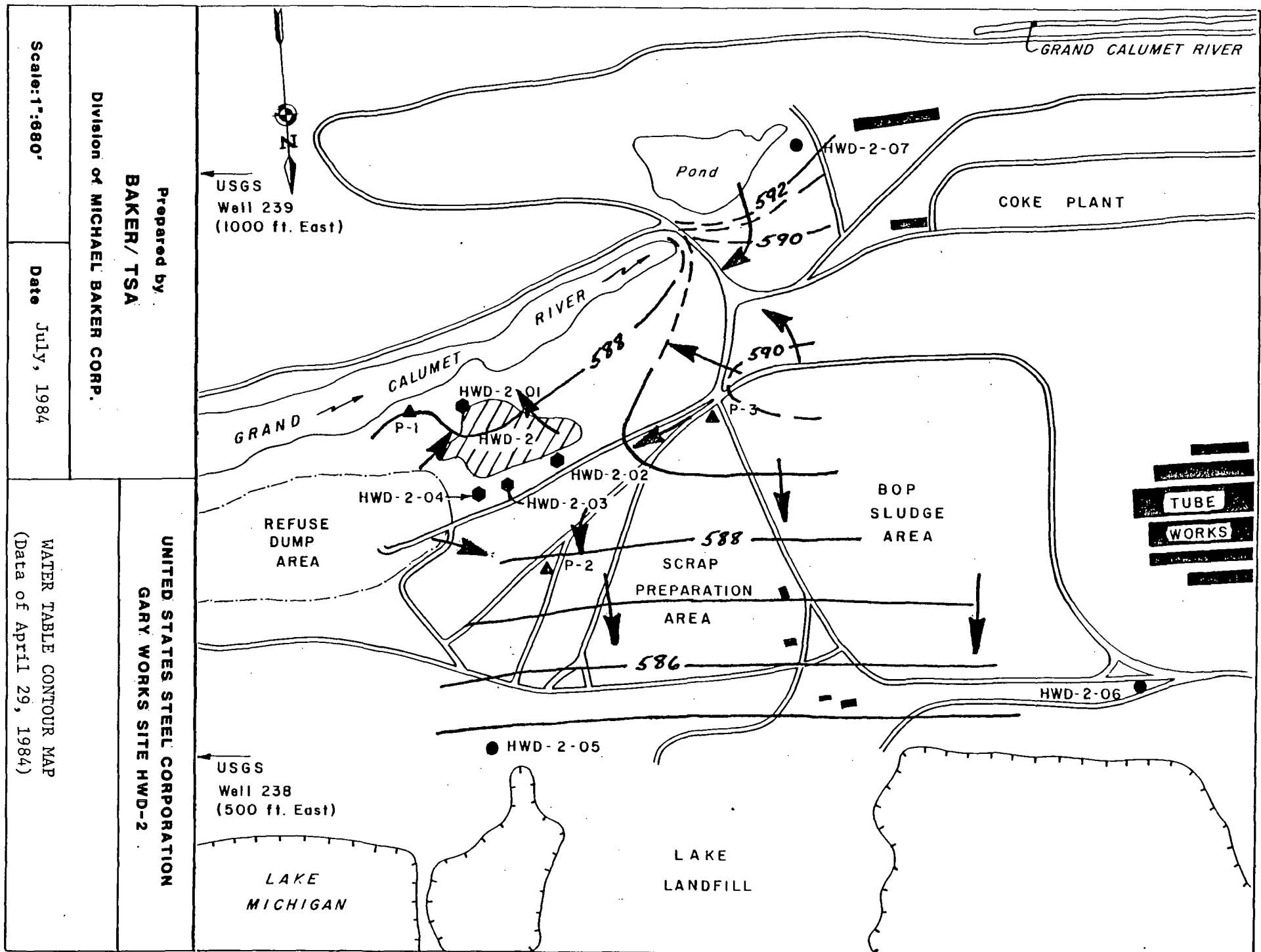
<u>Monitoring Point</u>	<u>Reference Elev.</u>	<u>Depth (ft.) to Water</u>	<u>Water Elev.</u>	<u>Date/Time of Measurement</u>	<u>Remarks</u>
HWT-2-06	604.32	21.14	583.18	15/15:30	
HWT-2-07	603.55	17.28	586.27	15/15:30	
HWT-2-08	589.68	6.98	582.7	16/08:45	
HWT-2-09	609.36	27.86	581.5	16/08:50	
HWT-2-10	591.25	2.21	589.04	15/17:45	
E. Lagoon HWT-2	605.13	5.87	599.26	15/15:35	
W. Lagoon HWT-2	606.80				
P-6	606.92	21.42	585.5	15/16:10	
P-7	601.86	16.44	585.42	15/16:35	
P-8	606.72	21.46	585.26	15/16:15	
P-9	605.79	20.35	585.44	15/16:20	
P-10	592.27	5.35	586.92	15/17:10	
P-11	596.94	10.19	586.75	15/16:30	
<hr/>					
HWT-14-01	592.74	8.35	584.39	15/16:50	
HWT-14-02	592.48	6.46	586.02	15/17:05	
HWT-14-03	592.07	5.98	586.09	15/17:10	
HWT-14-04	591.18	4.73	586.45	15/17:00	
HWT-14-05	590.79	6.20	584.59	15/17:40	
Separator Lagoons	590.30	6.29	584.01	15/17:20	
P-12	594.80	7.78	587.02	15/16:40	
P-13	592.80	7.46	585.34	15/17:30	
<hr/>					
HWD-5-01	589.42	3.60	585.82	15/18:00	
HWD-5-02	594.73	10.50	584.23	16/07:50	
HWD-5-03	596.34	12.34	584.00	16/07:55	
HWD-5-04	594.09	11.03	583.06	16/08:30	
HWD-5-05	594.17	11.63	582.54	16/08:15	
P-14	592.23	4.37	587.86	15/17:55	
P-15	595.91	9.58	586.33	15/08:05	
P-16	597.09	13.42	583.67	16/08:00	
Lake on E.	587.46	3.72	583.74	16/08:10	
<hr/>					

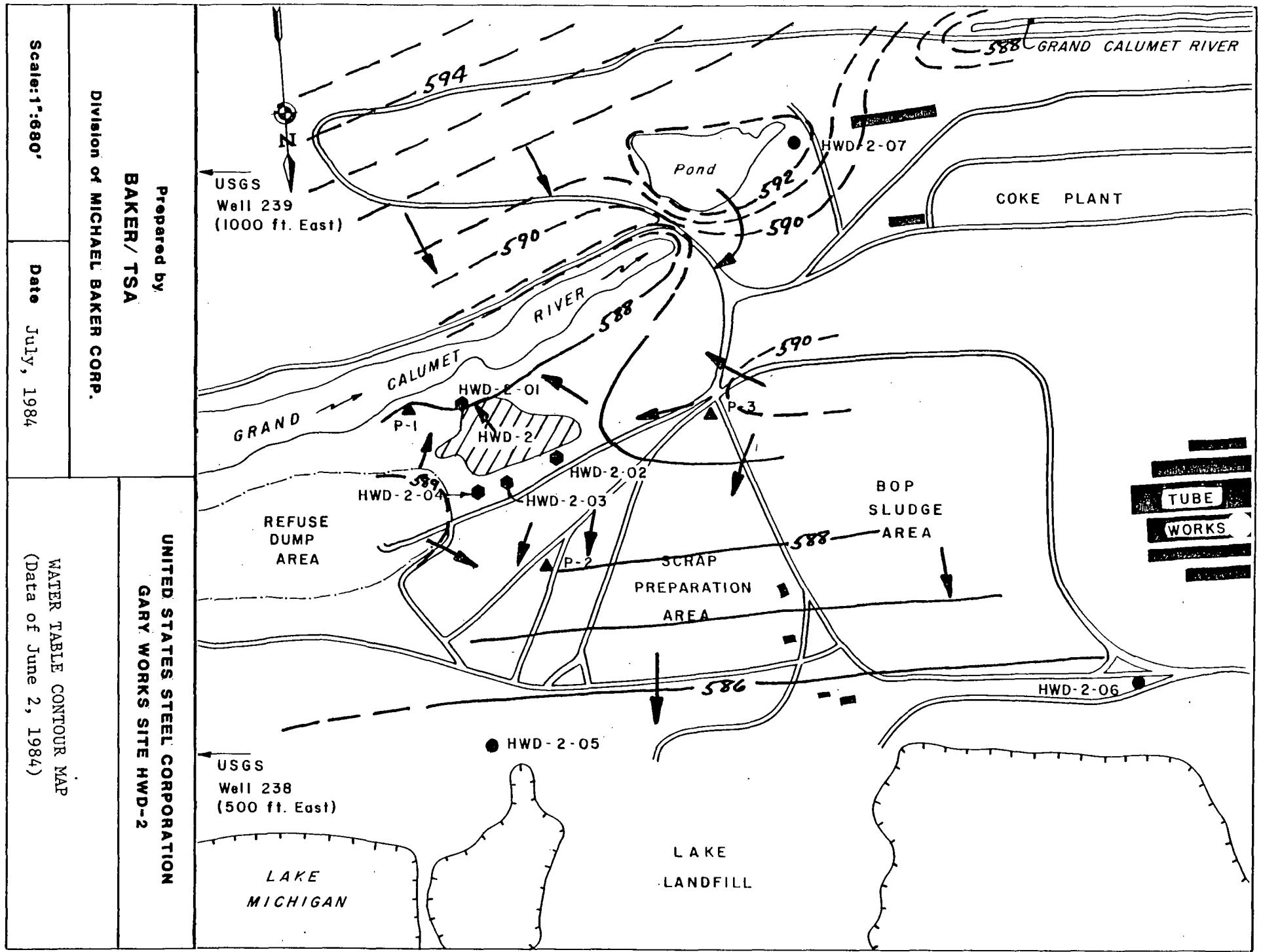
(SET #13)
- Continued -

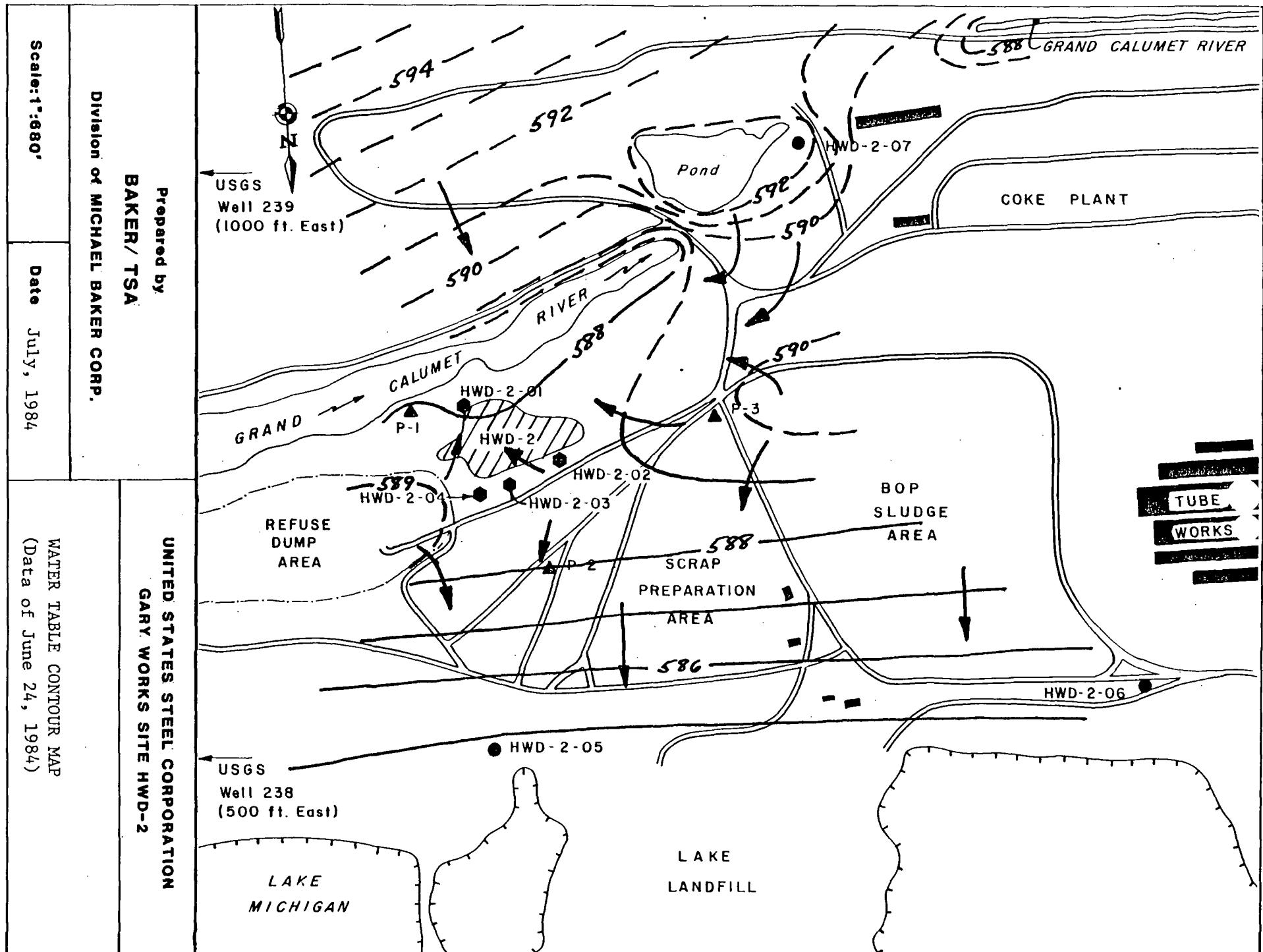
Weather Conditions Prior to Measurement Event:

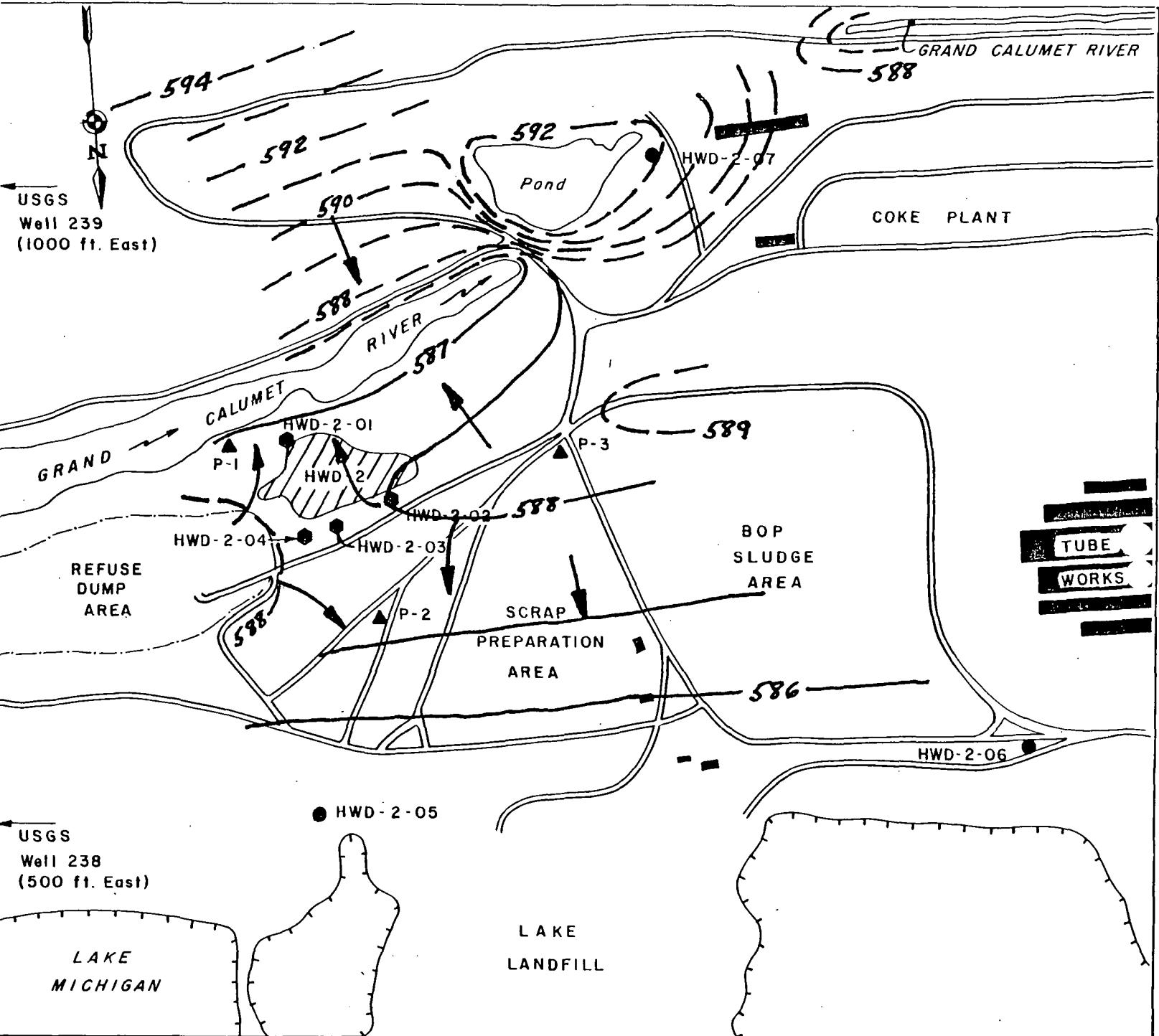
Weather Conditions on Day of Measurements: Cool, dry.

APPENDIX C
WATER TABLE CONTOUR MAPS









UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-2

Prepared by

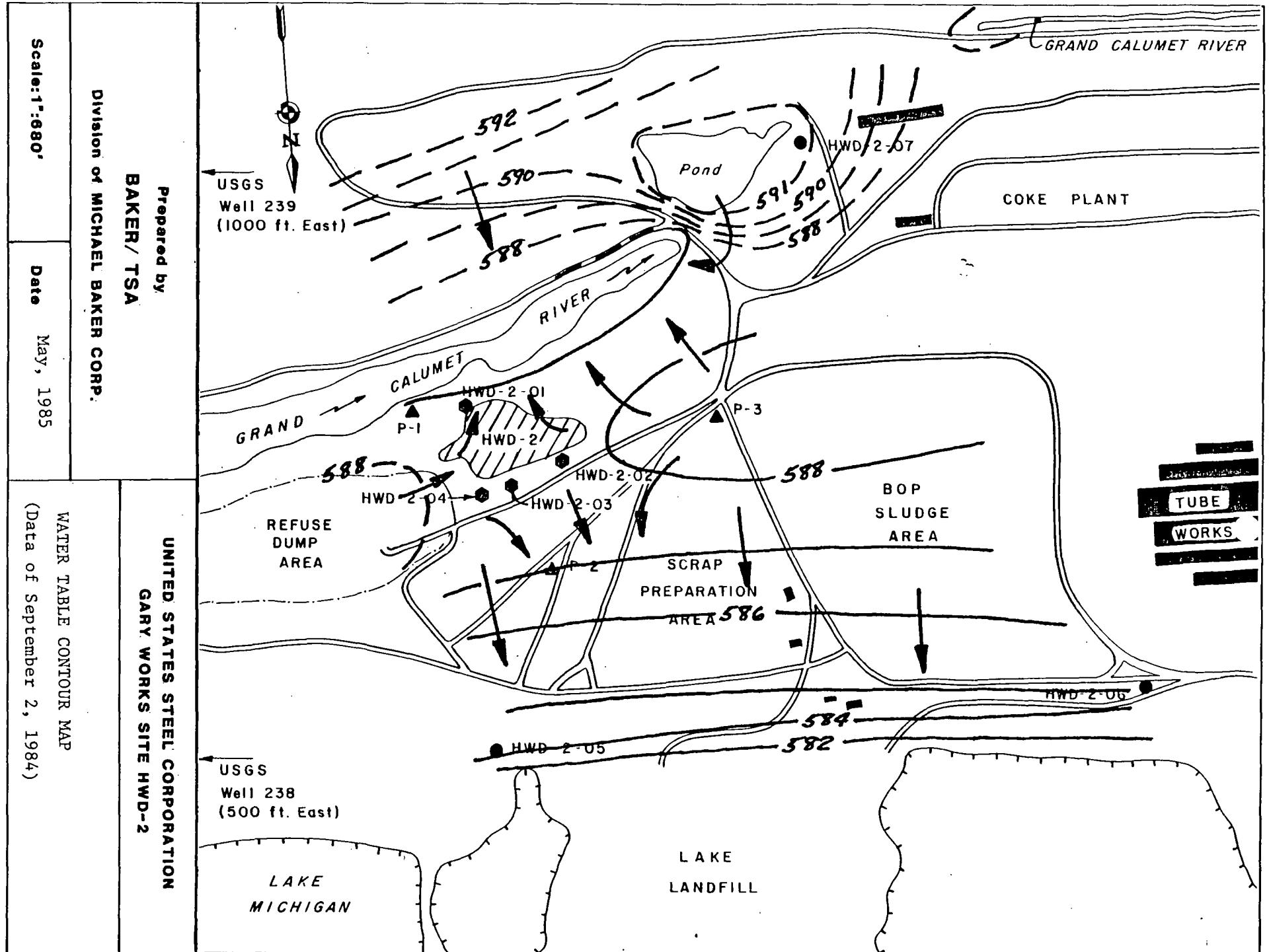
BAKER/ TSA

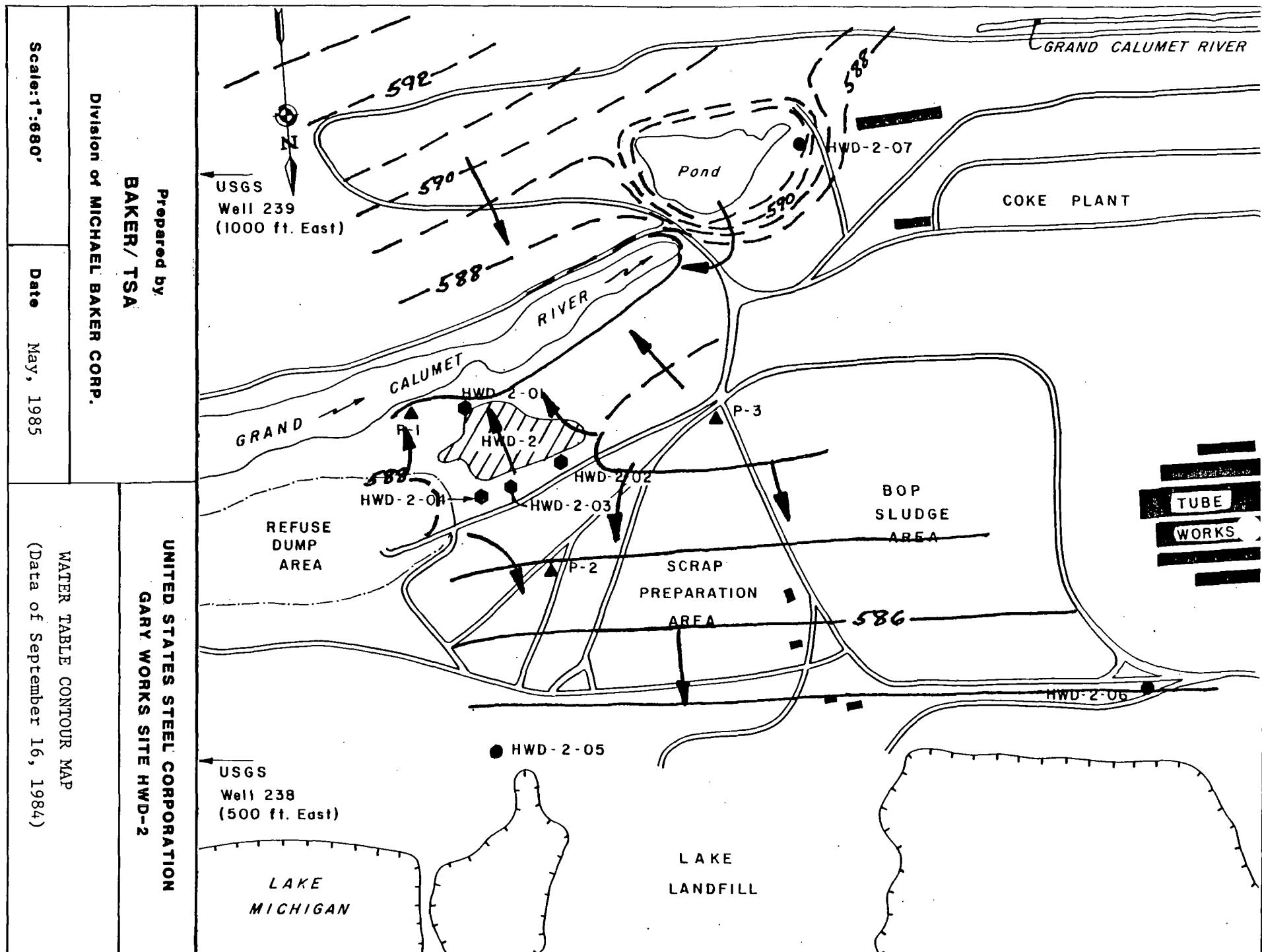
Division of MICHAEL BAKER CORP.

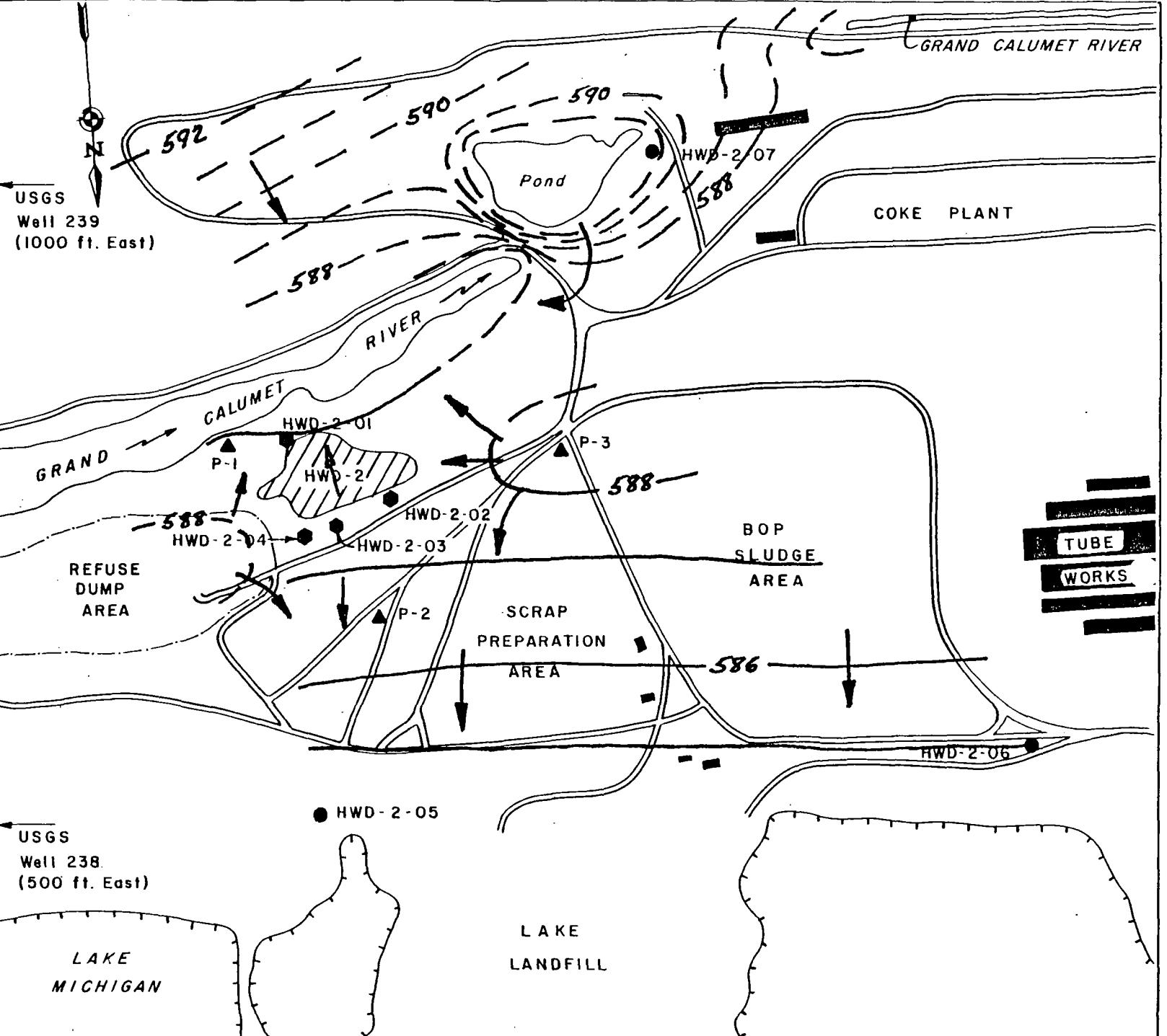
Scale: 1"=680'

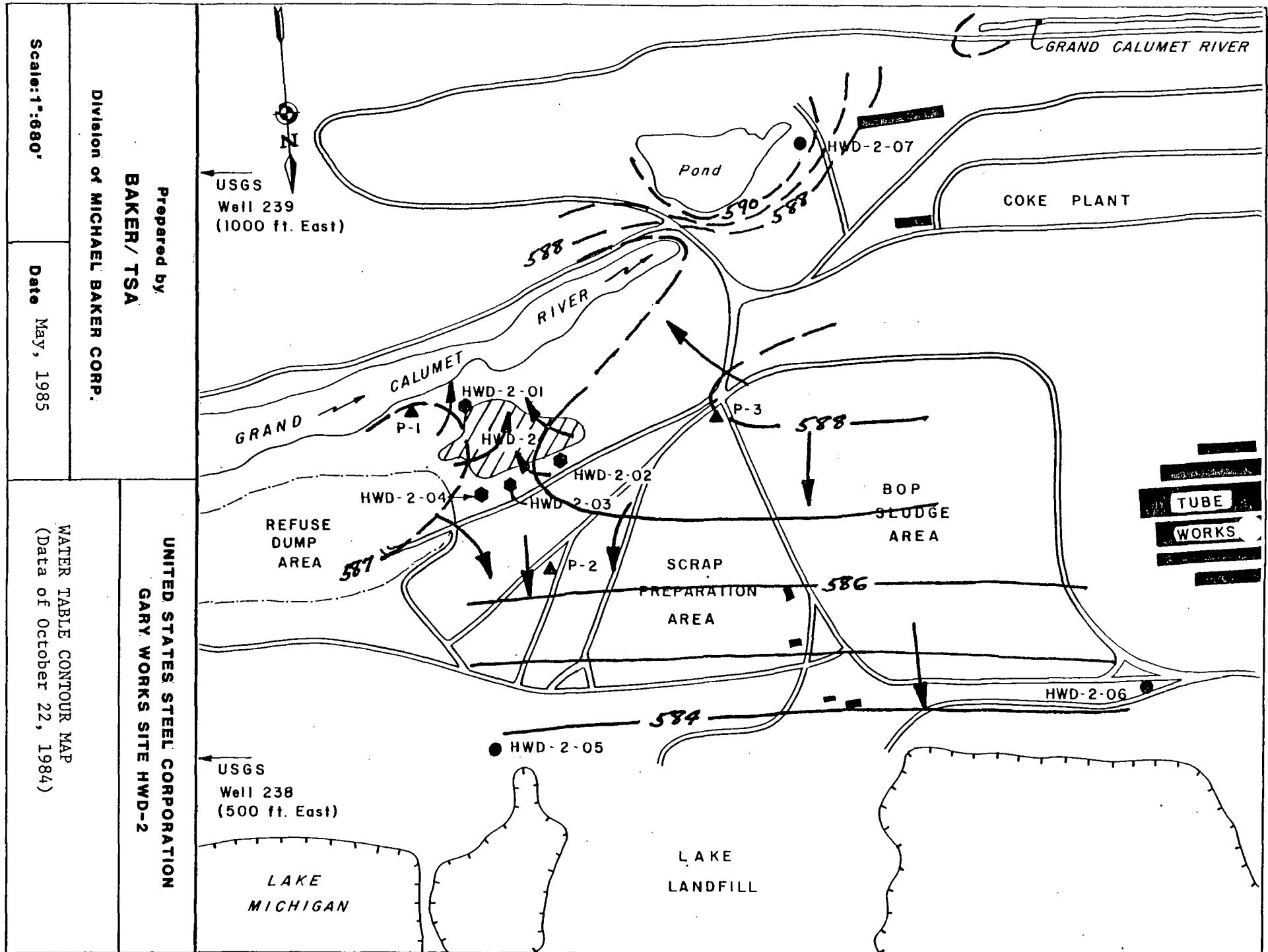
WATER TABLE CONTOUR MAP
(Data of August 4, 1984)

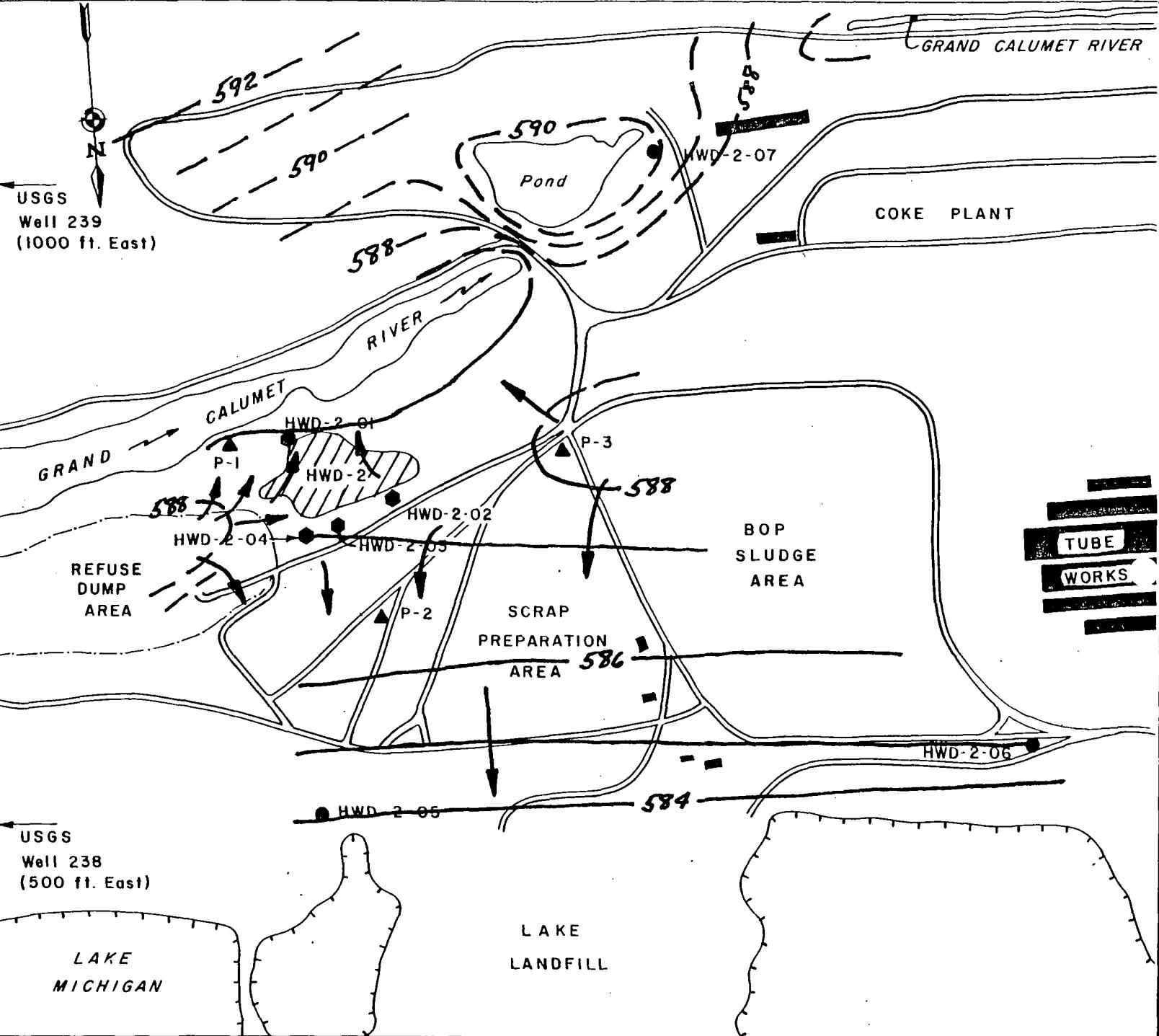
Date May, 1985











**UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-2**

Prepared by

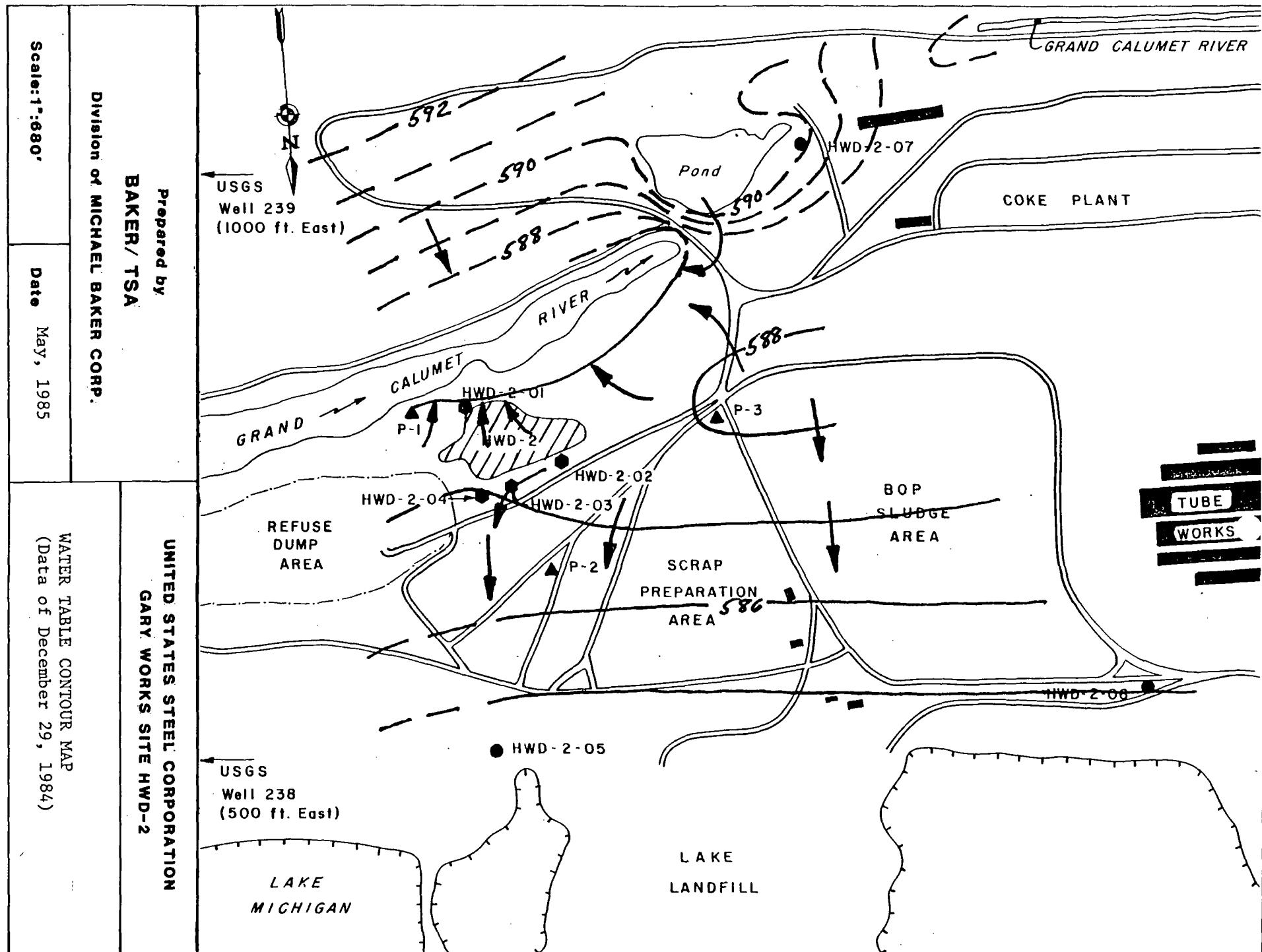
BAKER/ TSA

Division of MICHAEL BAKER CORP.

Scale: 1" : 660'

Date May, 1985

WATER TABLE CONTOUR MAP
(Data of December 2, 1984)



Scale: 1":680"

Date May, 1985

WATER TABLE CONTOUR MAP
(Data of January 25, 19

(Data of January 25 - 19

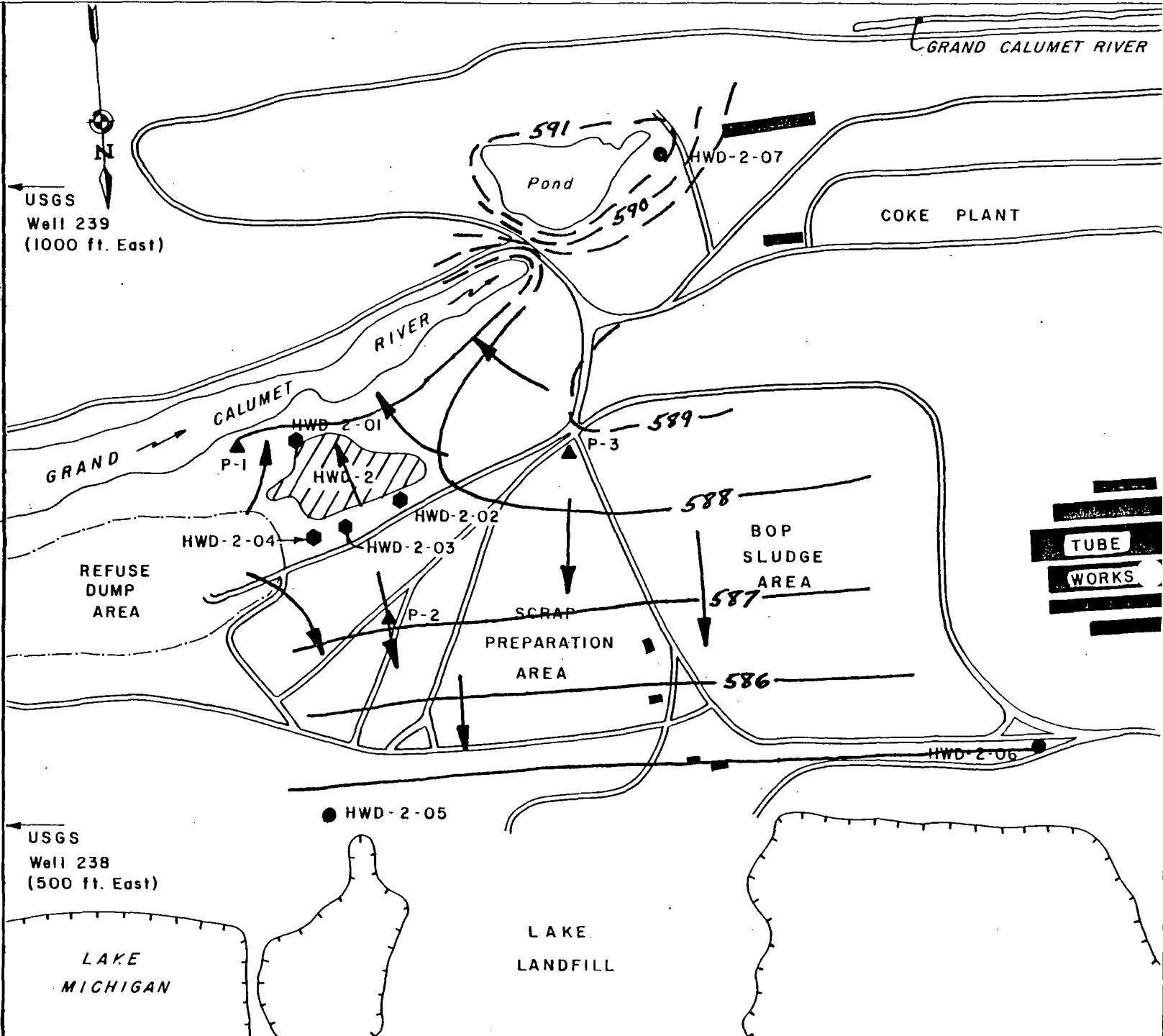
Division of MICHAEL BAKER CORP.

BAKER/ TSA prepared by **GARY WORKS SITE HWD-2**

USGS
Well 238
(500 ft. East)

LAKE
MICHIGAN

USGS
Well 239
(1000 ft. East)



UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-2

Prepared by

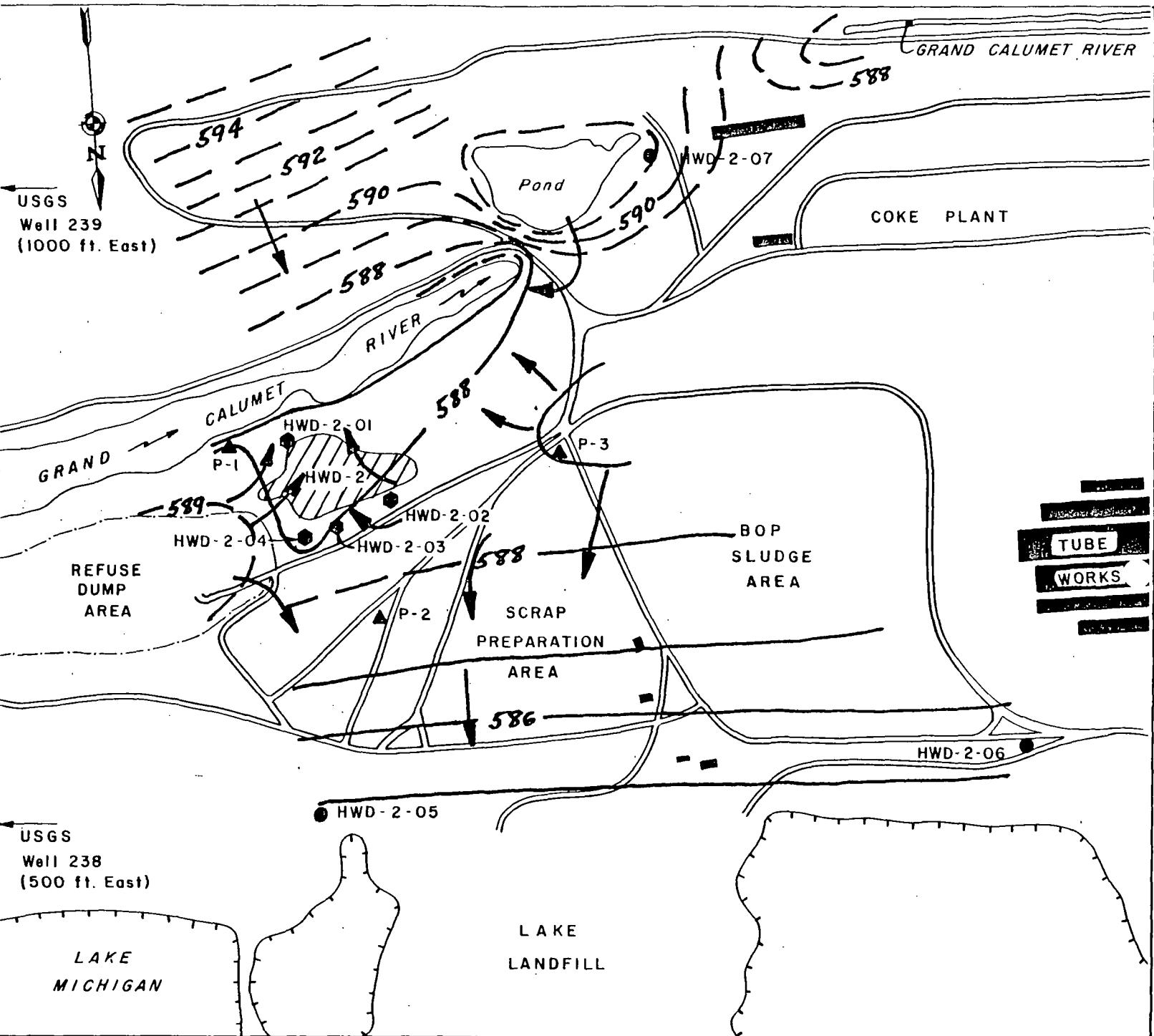
BAKER / TSA

Division of MICHAEL BAKER CORP.

Scale: 1":680'

Date May, 1985

WATER TABLE CONTOUR MAP
(Data of March 1, 1985)



**UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-2**

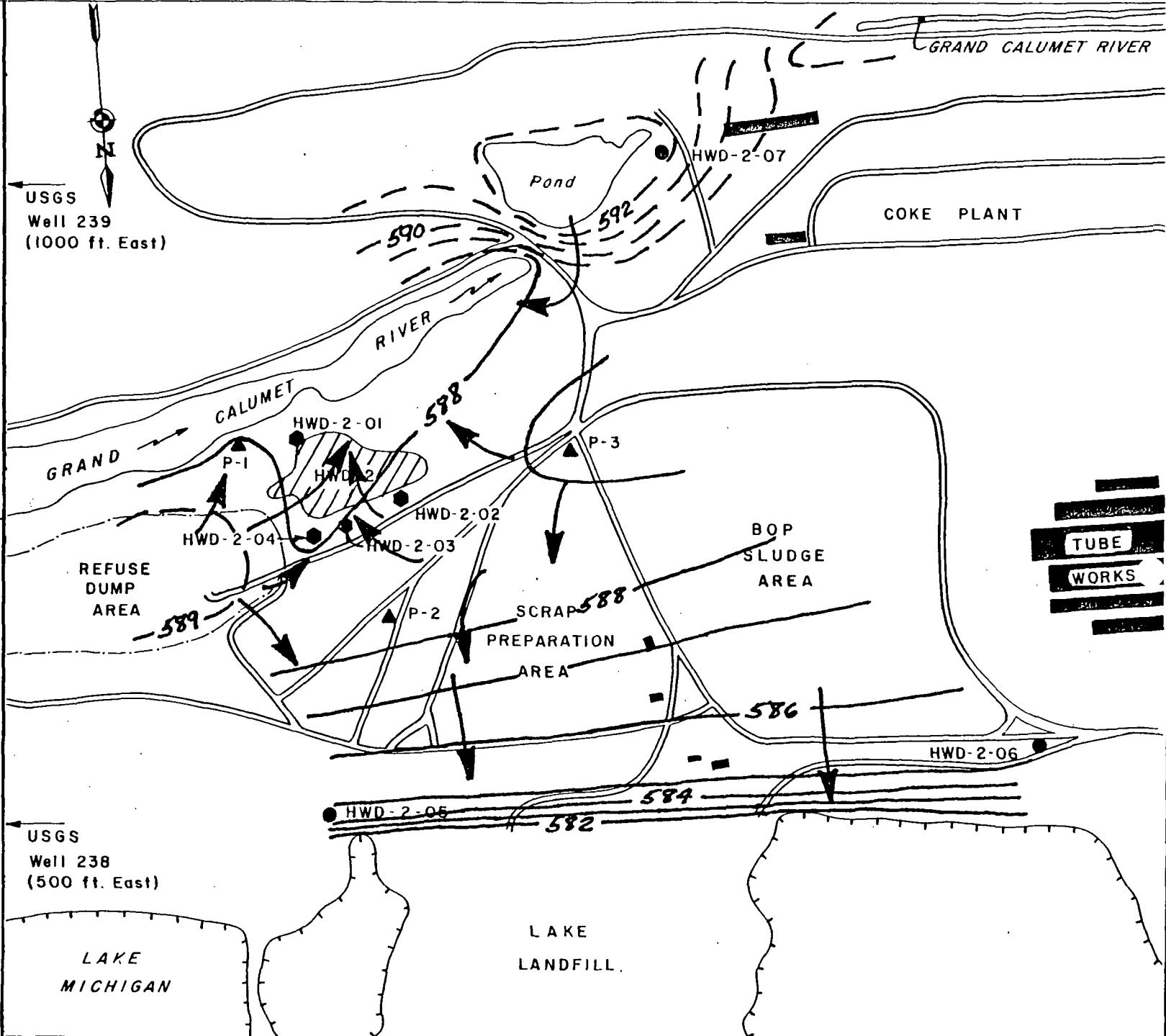
Prepared by

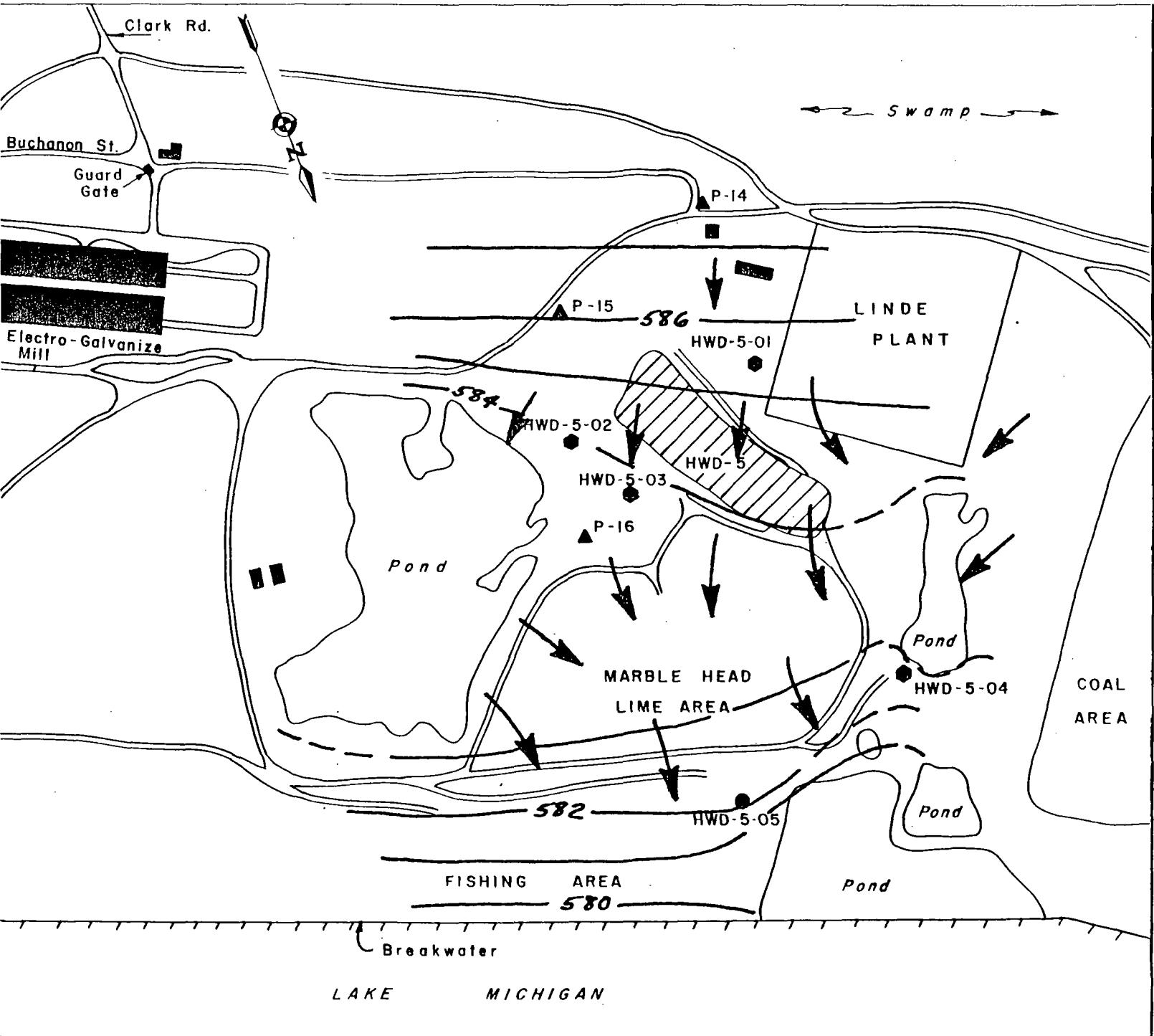
BAKER/ TSA

Division of MICHAEL BAKER CORP.

Scale: 1":680'

Date May, 1985





Scale: 1":520'

Prepared by
BAKER / TSA

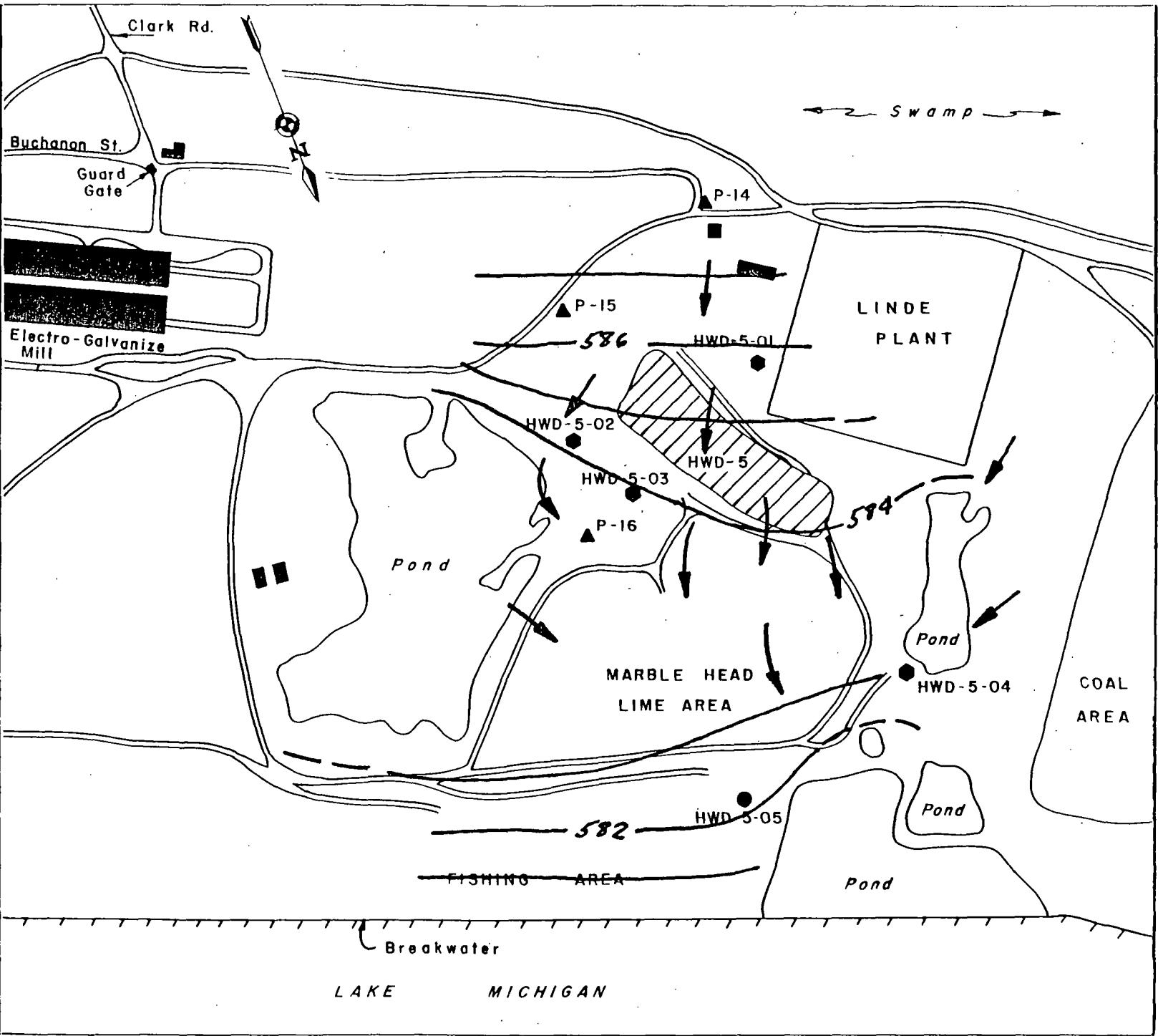
Division of MICHAEL BAKER CORP.

UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

WATER TABLE CONTOUR MAP

(Data of April, 29, 1984)

Date: July, 1984

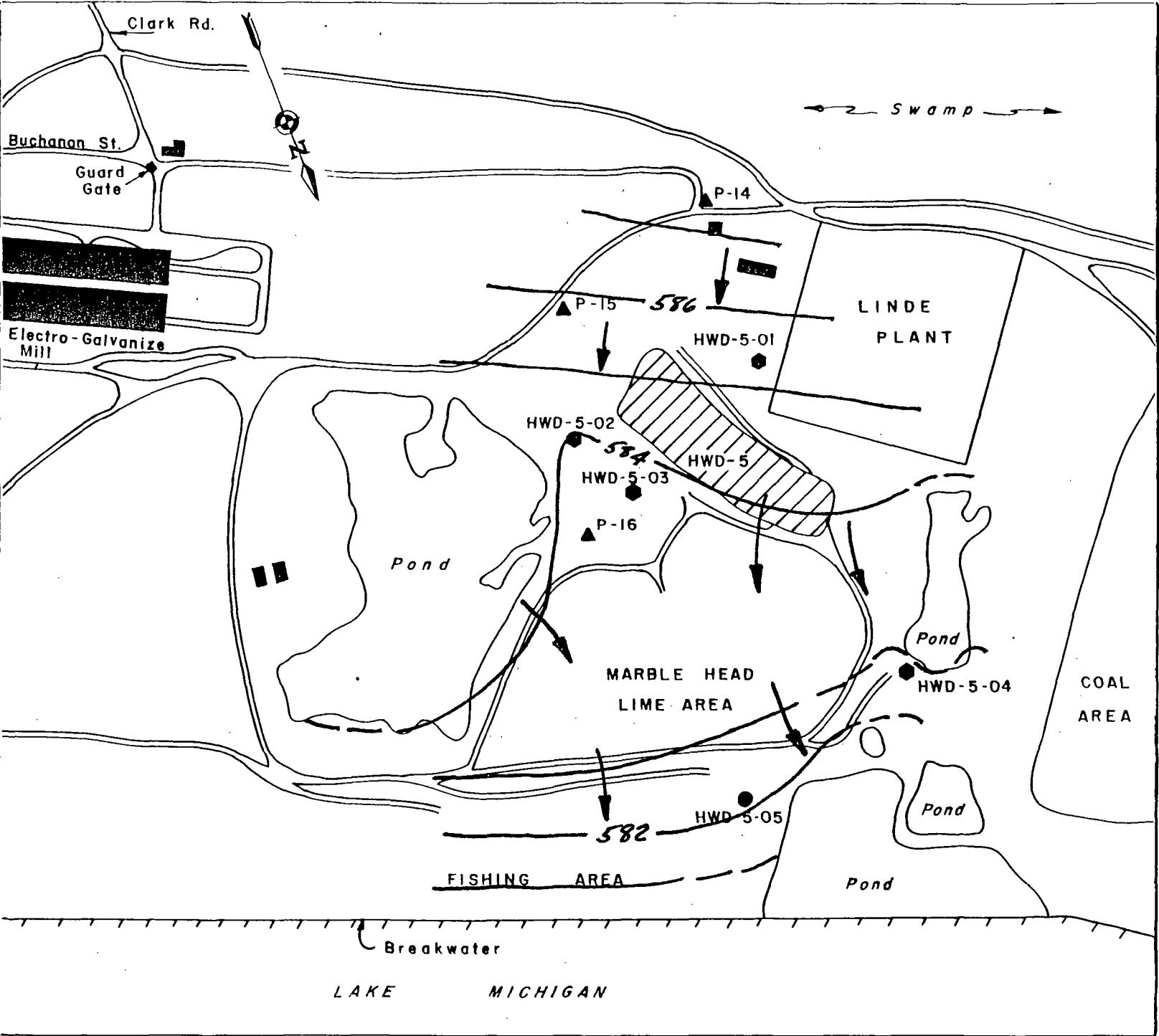


UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

Scale: 1" : 520'

Date: July, 1984

WATER TABLE CONTOUR MAP
(Data of June 2, 1984)



UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

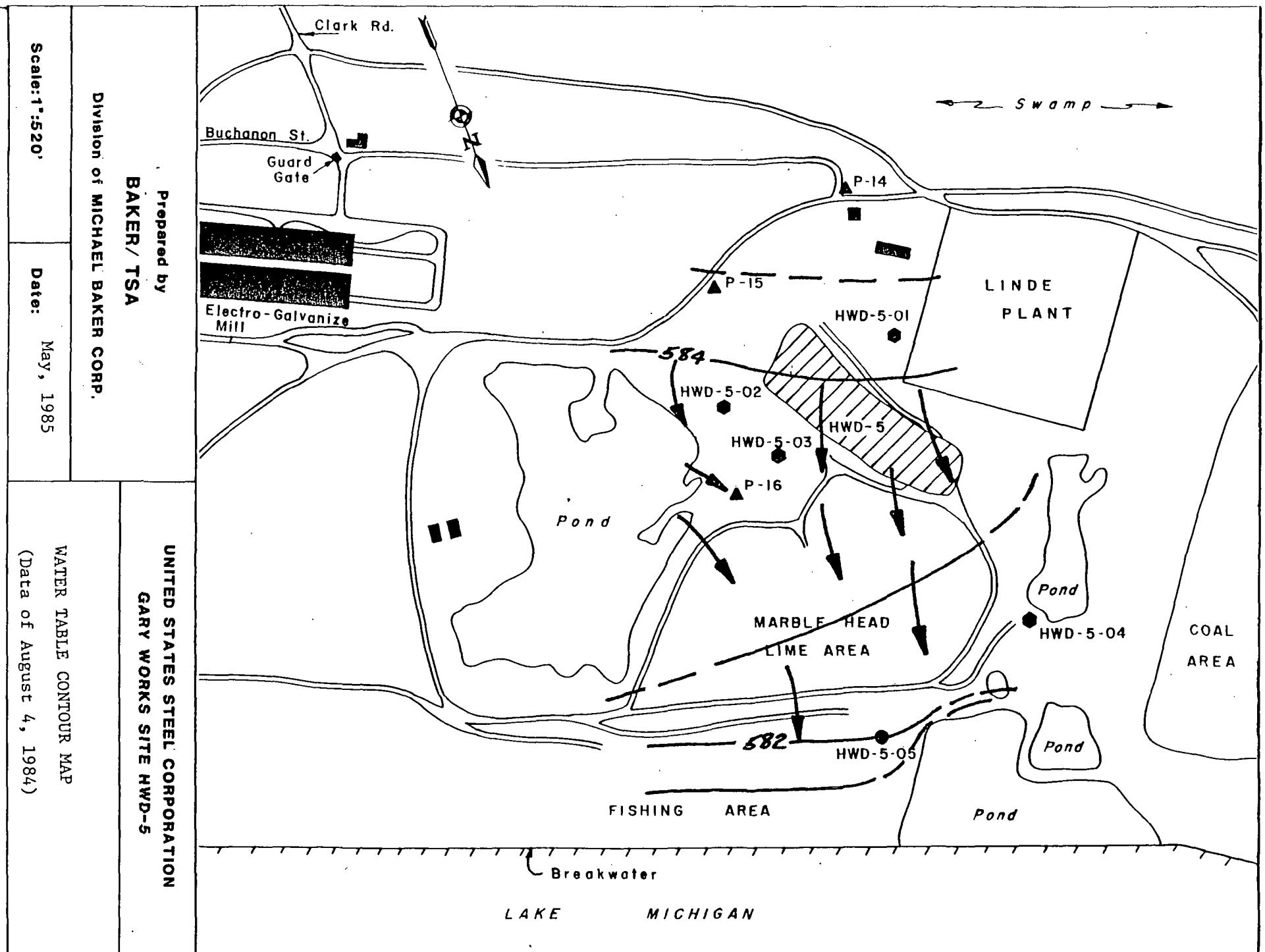
Prepared by
BAKER/ TSA

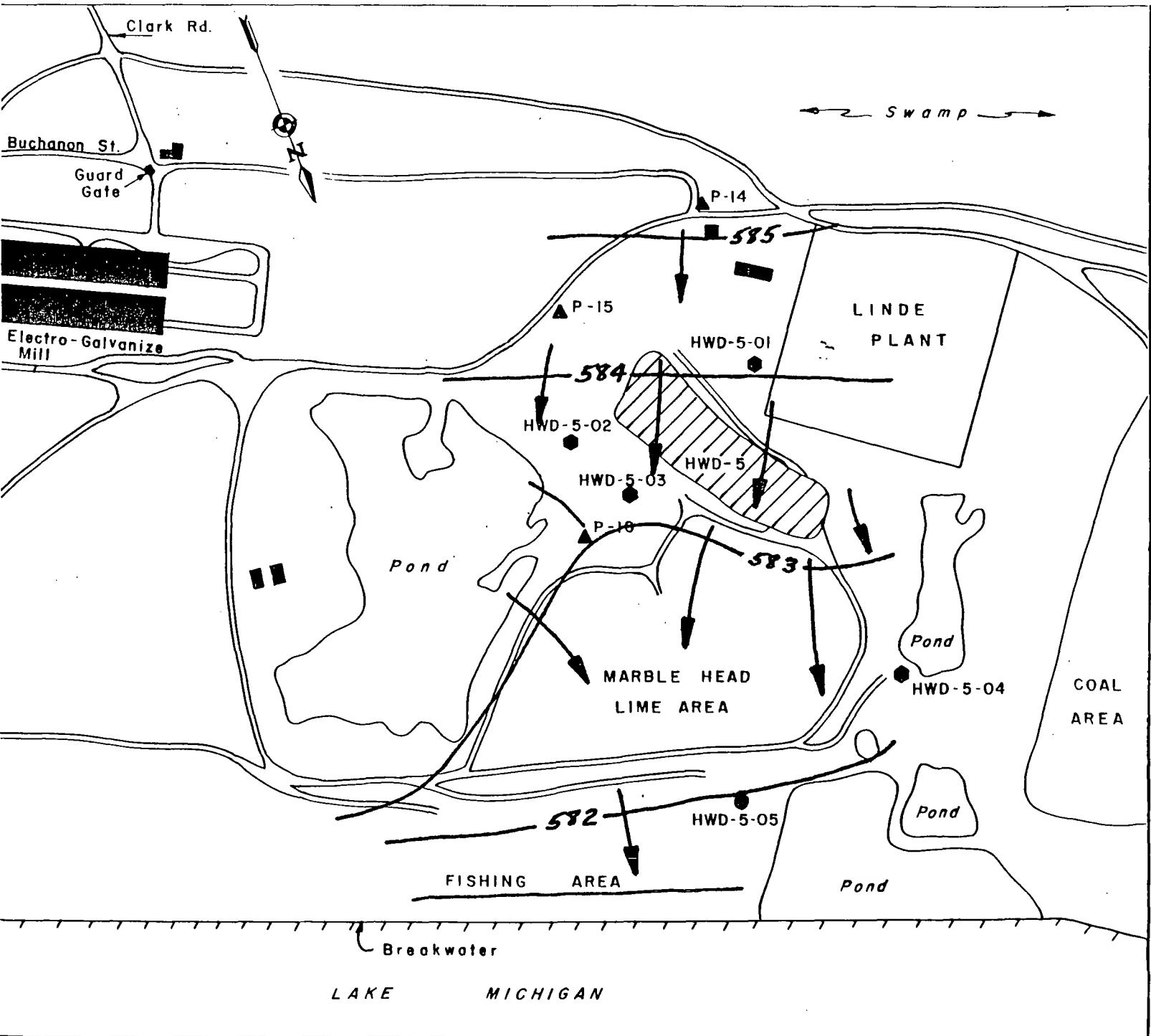
Division of **MICHAEL BAKER CORP.**

Scale: 1" : 520'

Date: July, 1984

WATER TABLE CONTOUR MAP
(Data of June 24, 1984)





UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

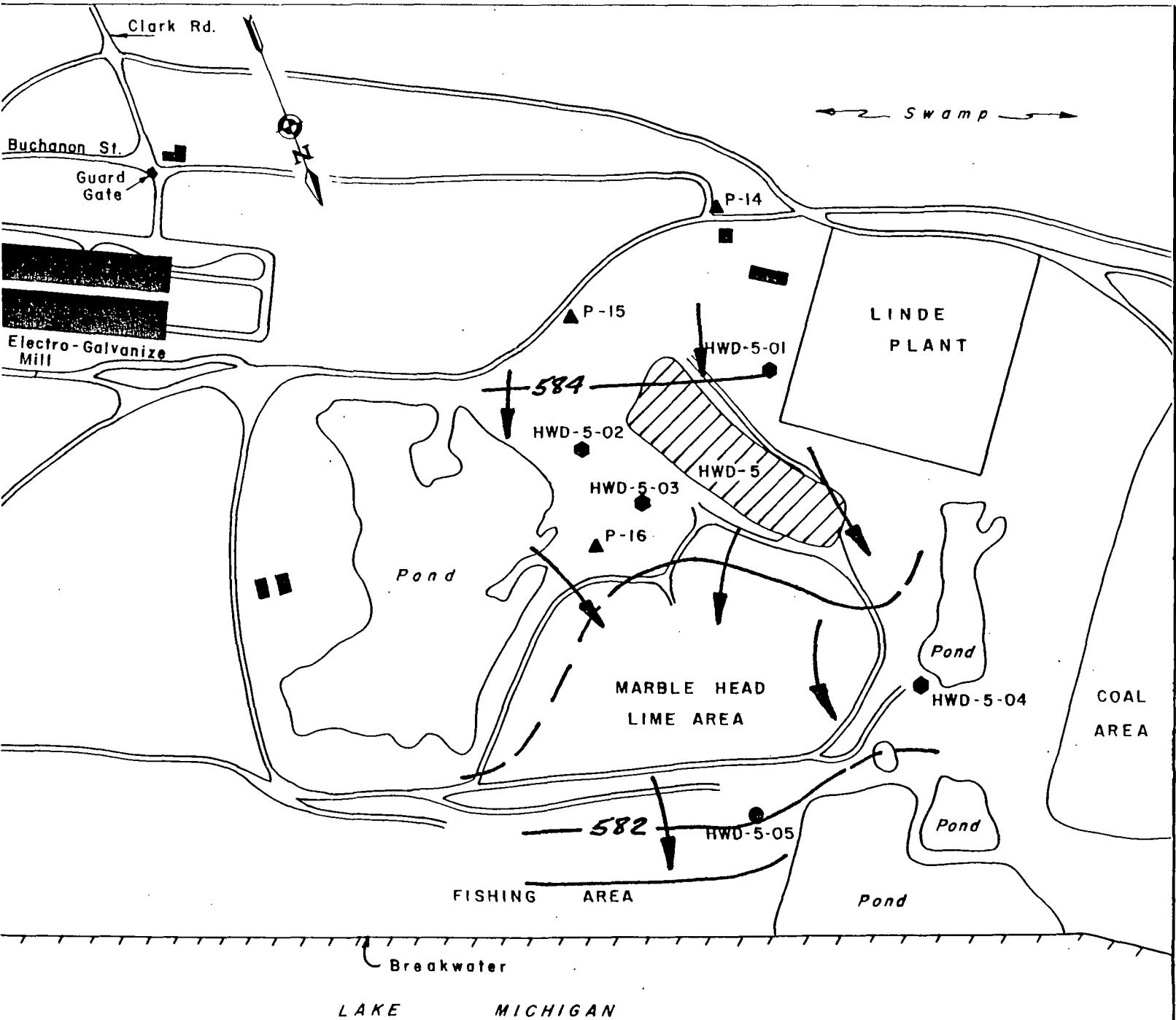
Scale: 1":520'

Date: May, 1985

Prepared by
BAKER / TSA

Division of **MICHAEL BAKER CORP.**

WATER TABLE CONTOUR MAP
(Data of September 2, 1984)



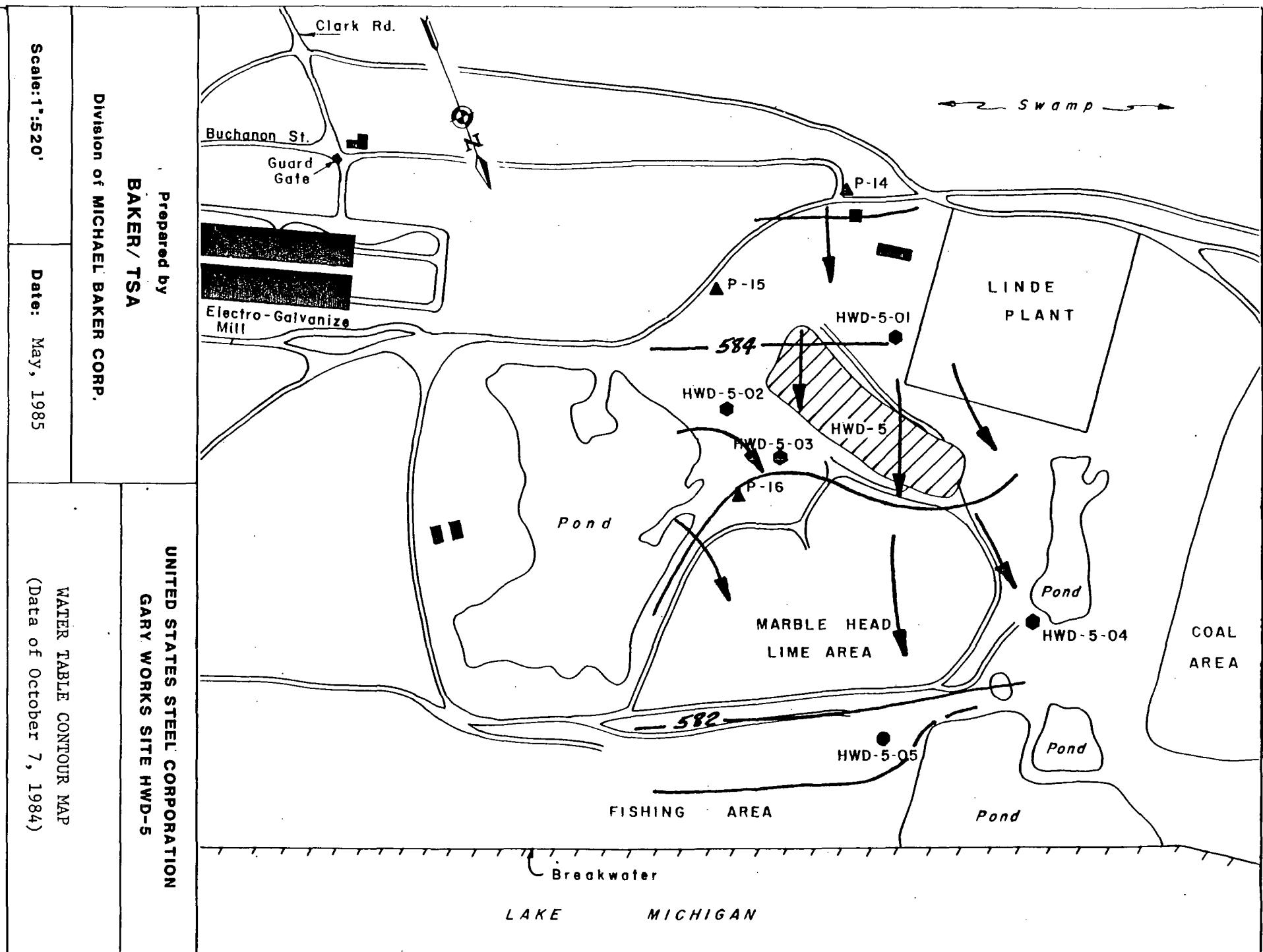
UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

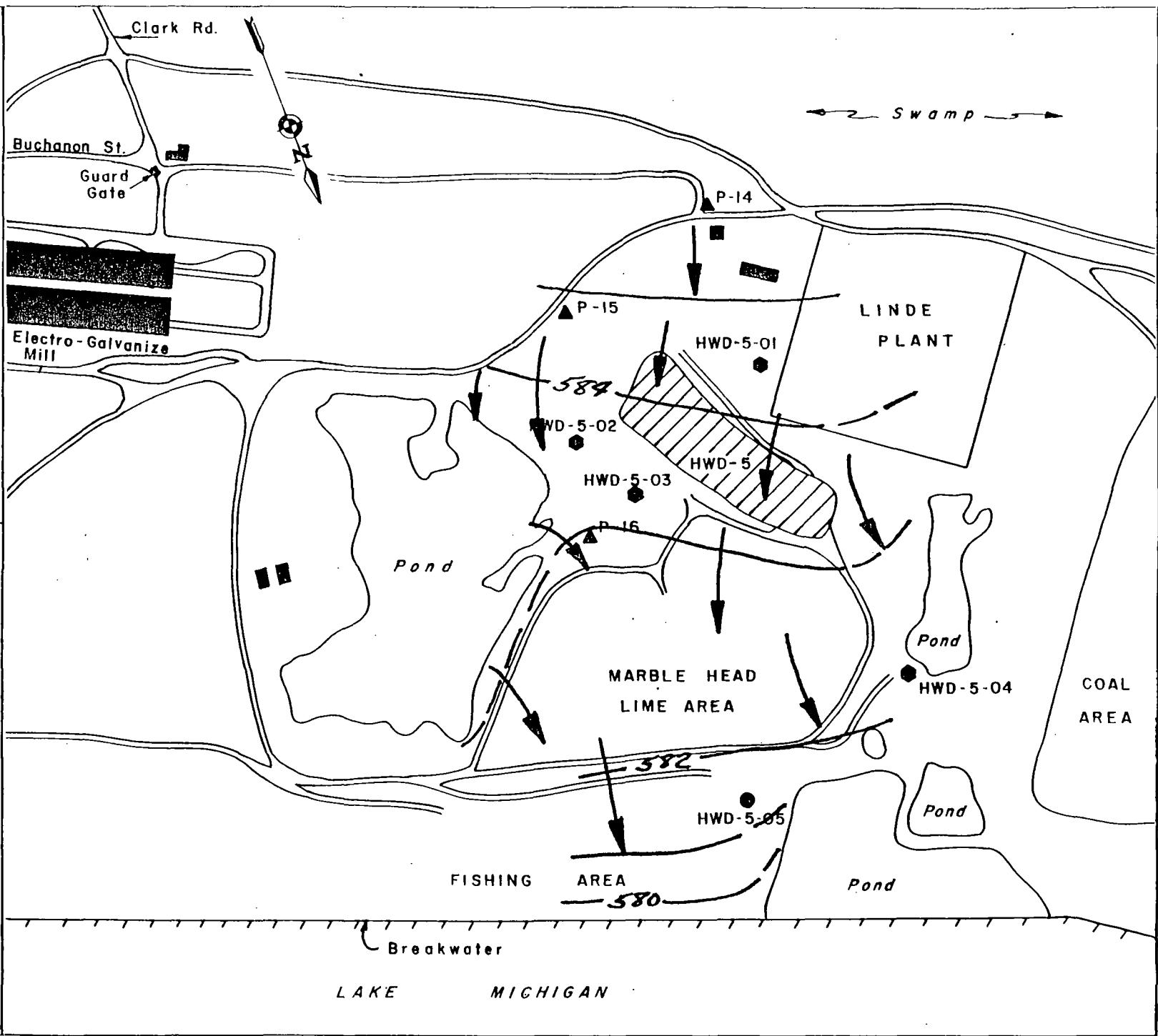
Scale: 1":520'

Prepared by
BAKER / TSA
Division of MICHAEL BAKER CORP.

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of September 16, 1984)





UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

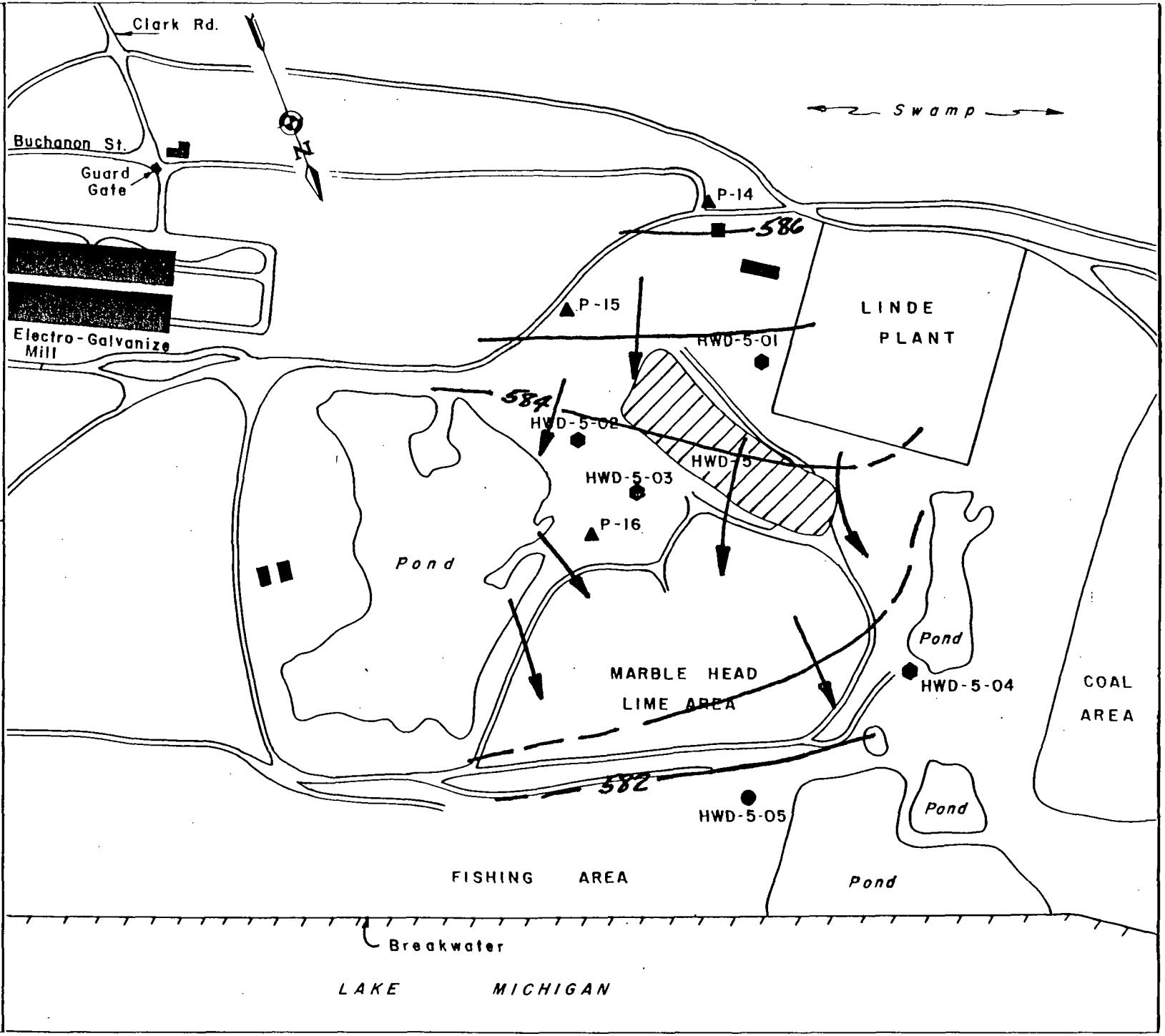
Prepared by
BAKER / TSA

Division of **MICHAEL BAKER CORP.**

Scale: 1":520'

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of October 25, 1984)



UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

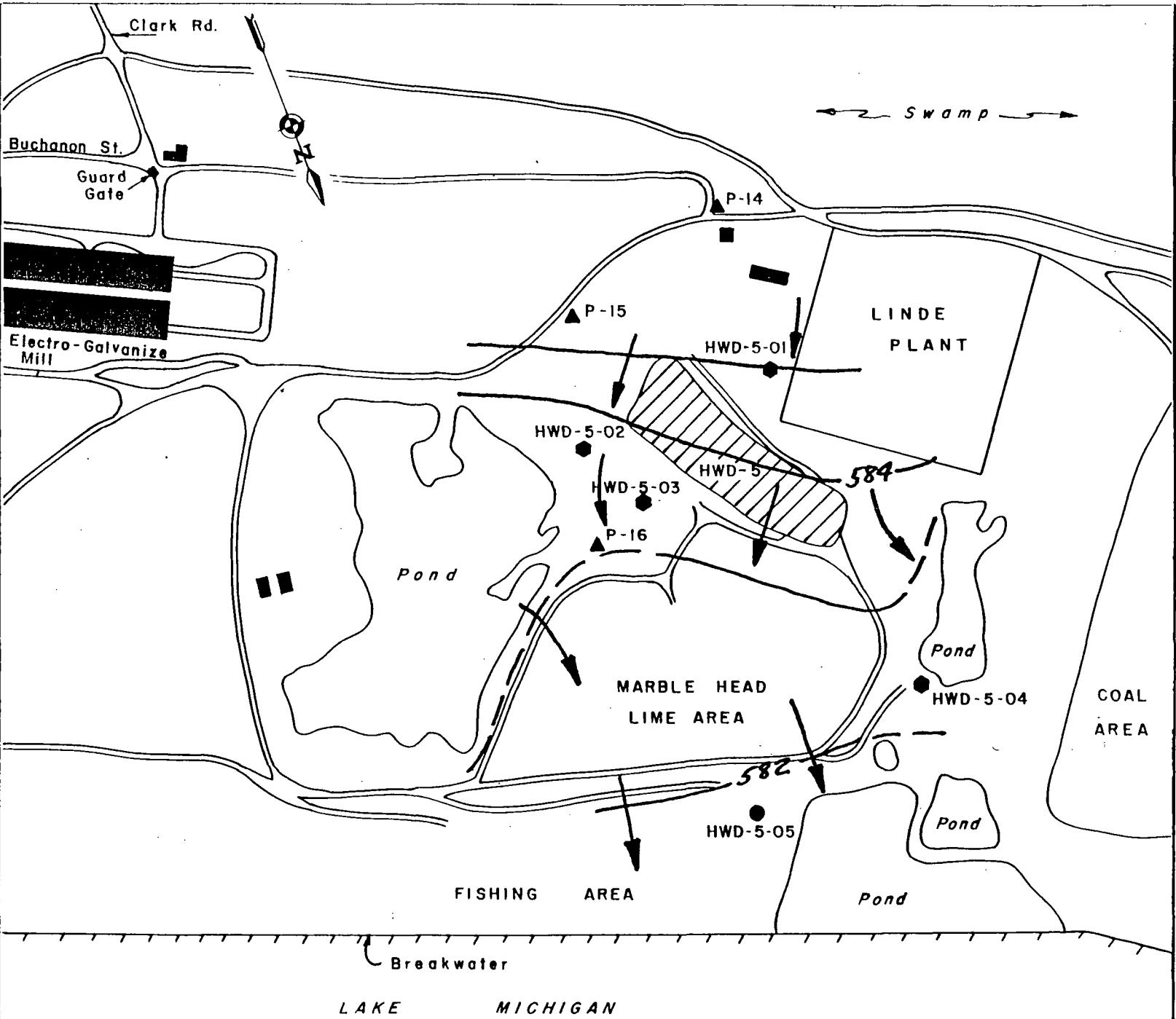
Prepared by
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Division of MICHAEL BAKER CORP.

Scale: 1":520'

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of December 2, 1984)



**UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5**

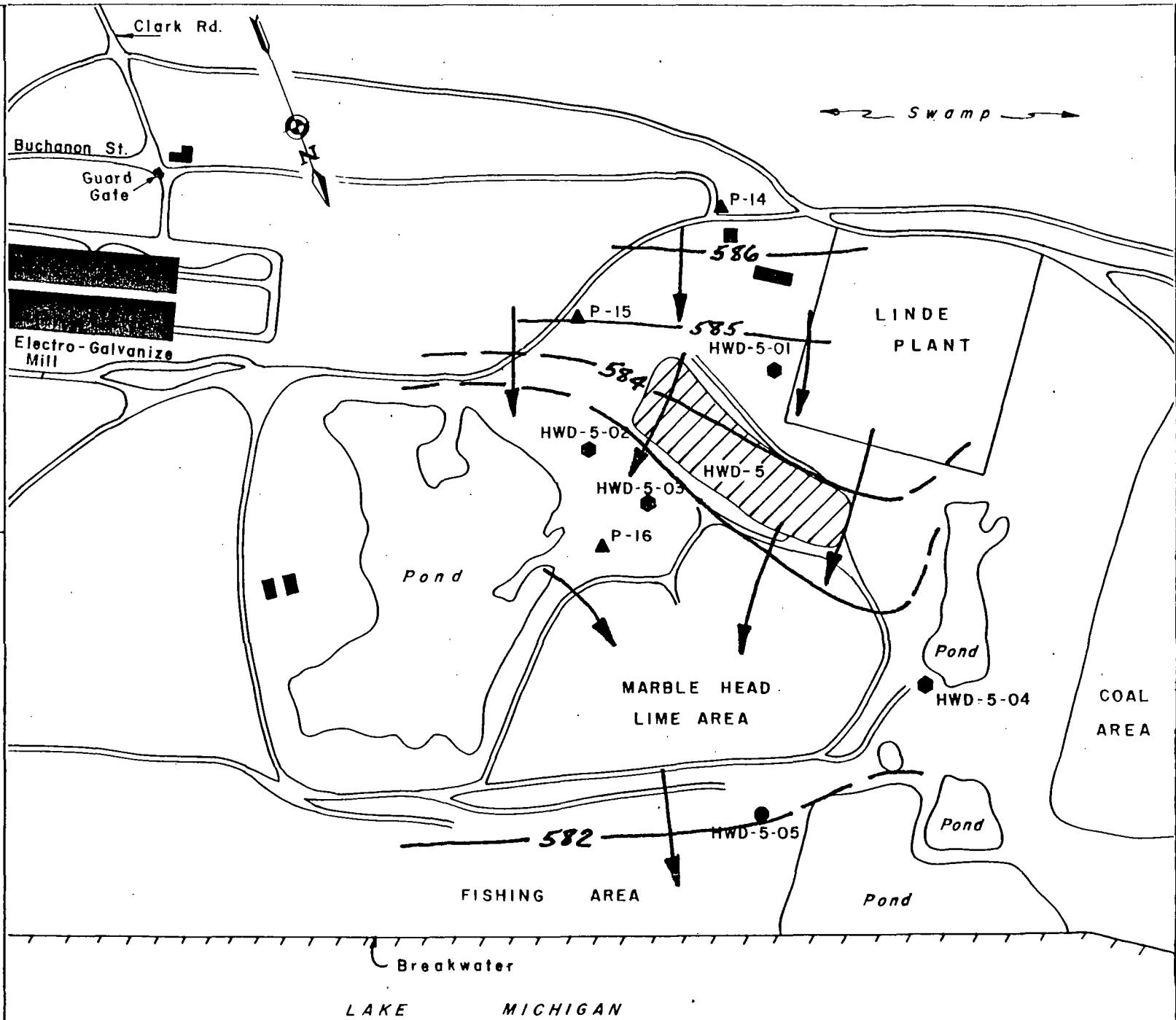
Prepared by
BAKER/ TSA

Division of **MICHAEL BAKER CORP.**

Scale: 1":520'

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of December 29, 1984)



UNITED STATES STEEL CORPORATION
GARY WORKS SITE HWD-5

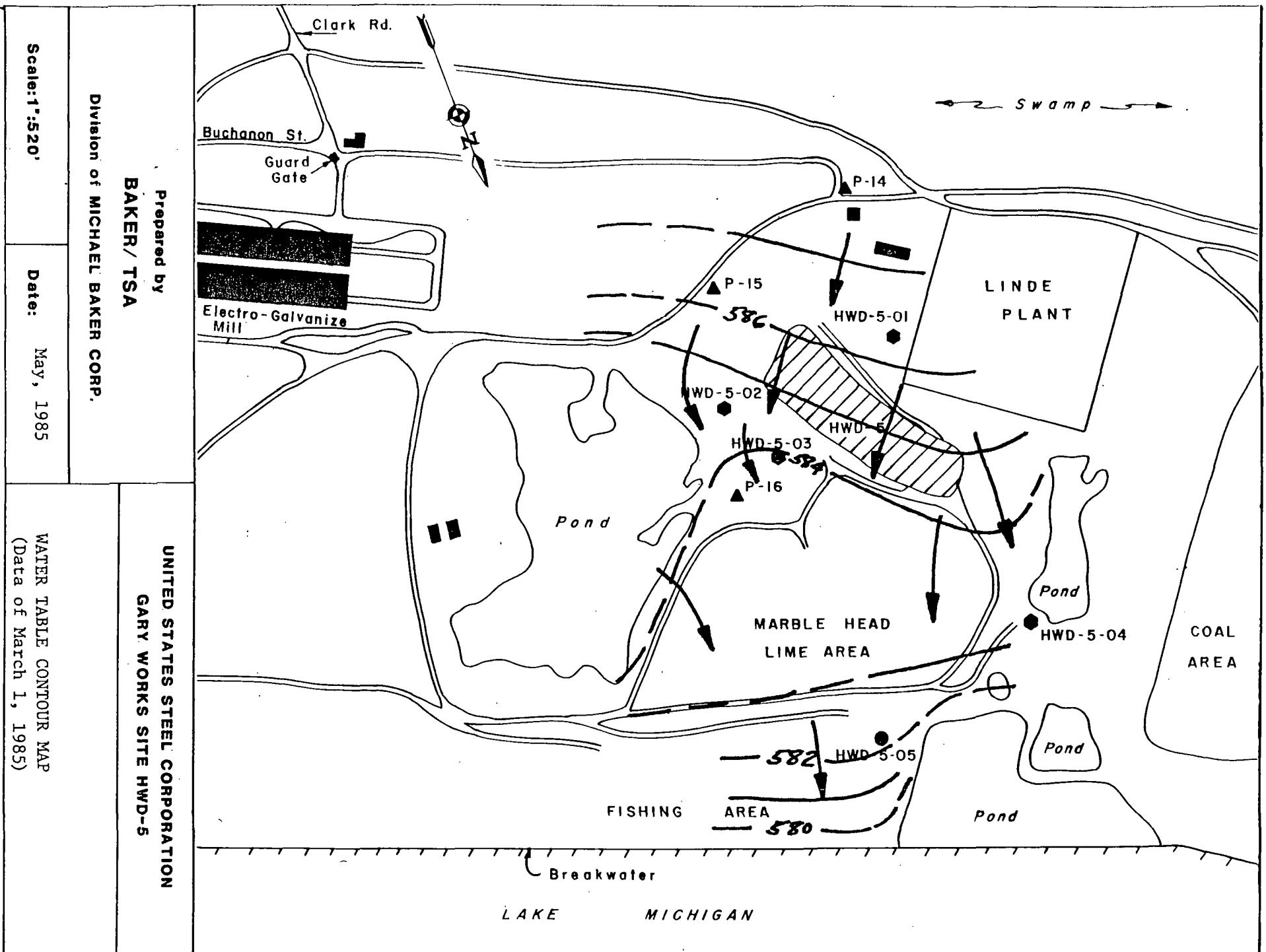
Prepared by
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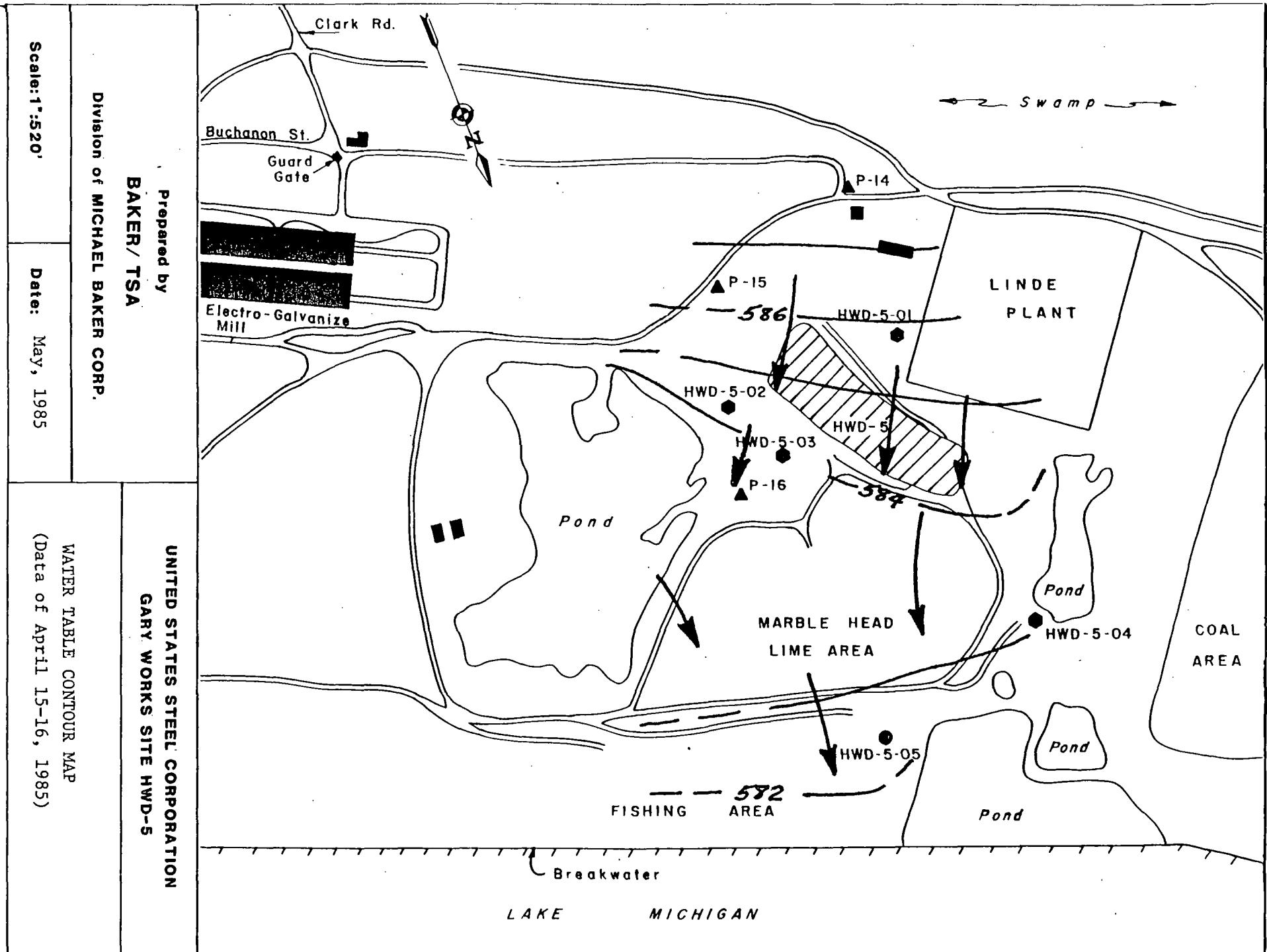
Division of MICHAEL BAKER CORP.

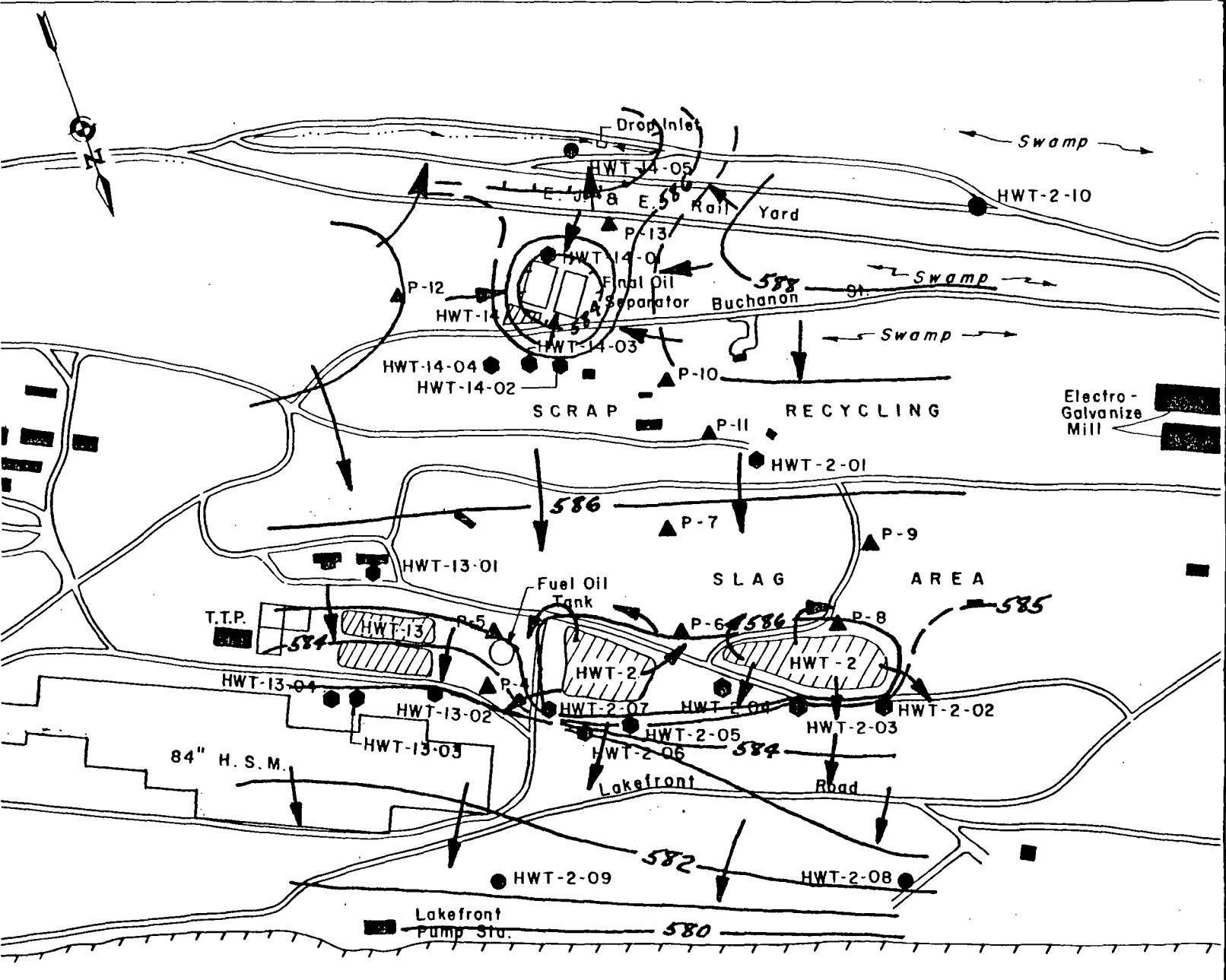
Scale: 1" : 520'

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of January 25, 1985)







UNITED STATES STEEL CORPORATION

GARY WORKS SITES HWT-2, HWT-13, HWT-14

(Data of April 29, 1984)

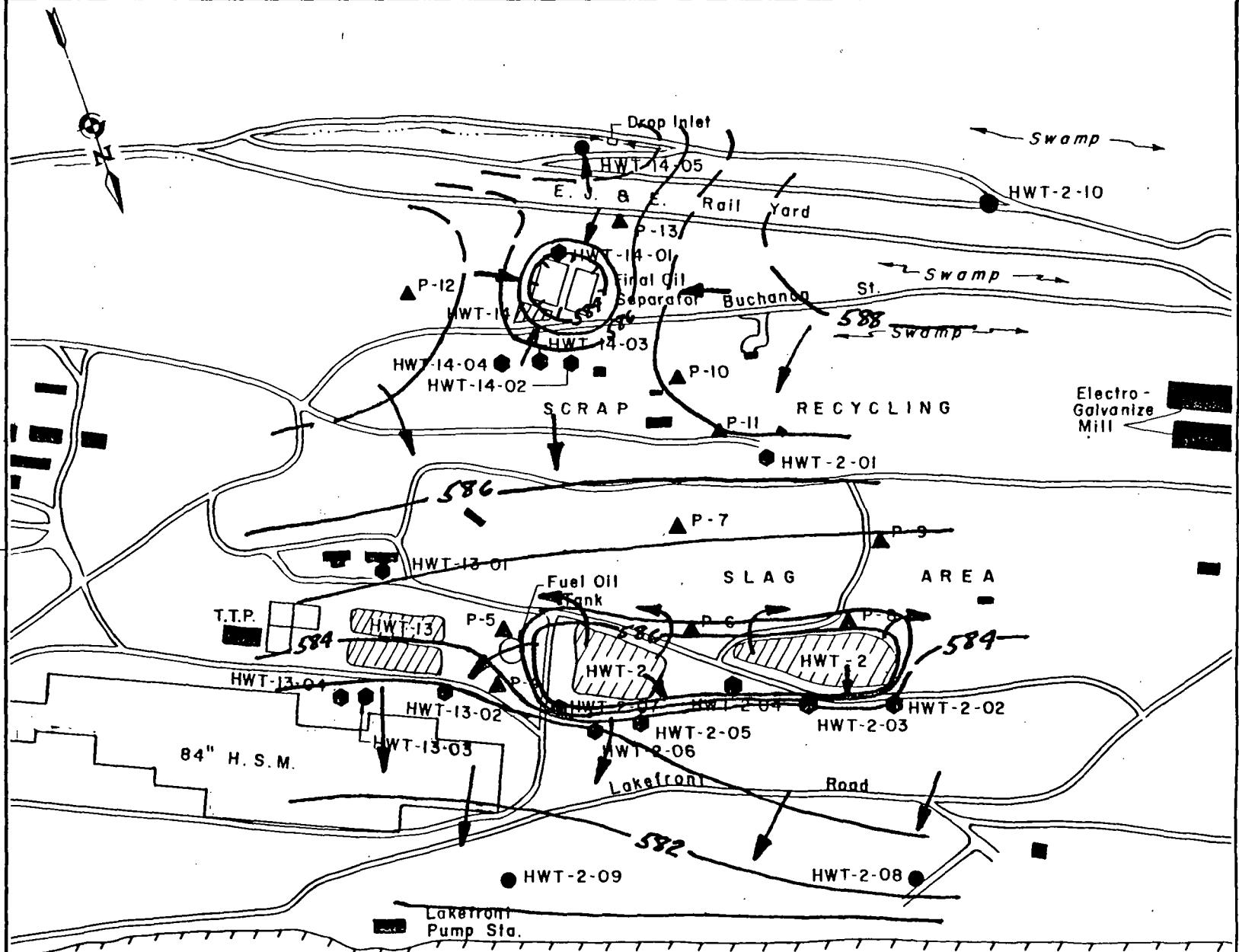
Prepared by

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Division of MICHAEL BAKER CORP.

Scale: 1" : 665'

Date: July, 1984



**UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14**

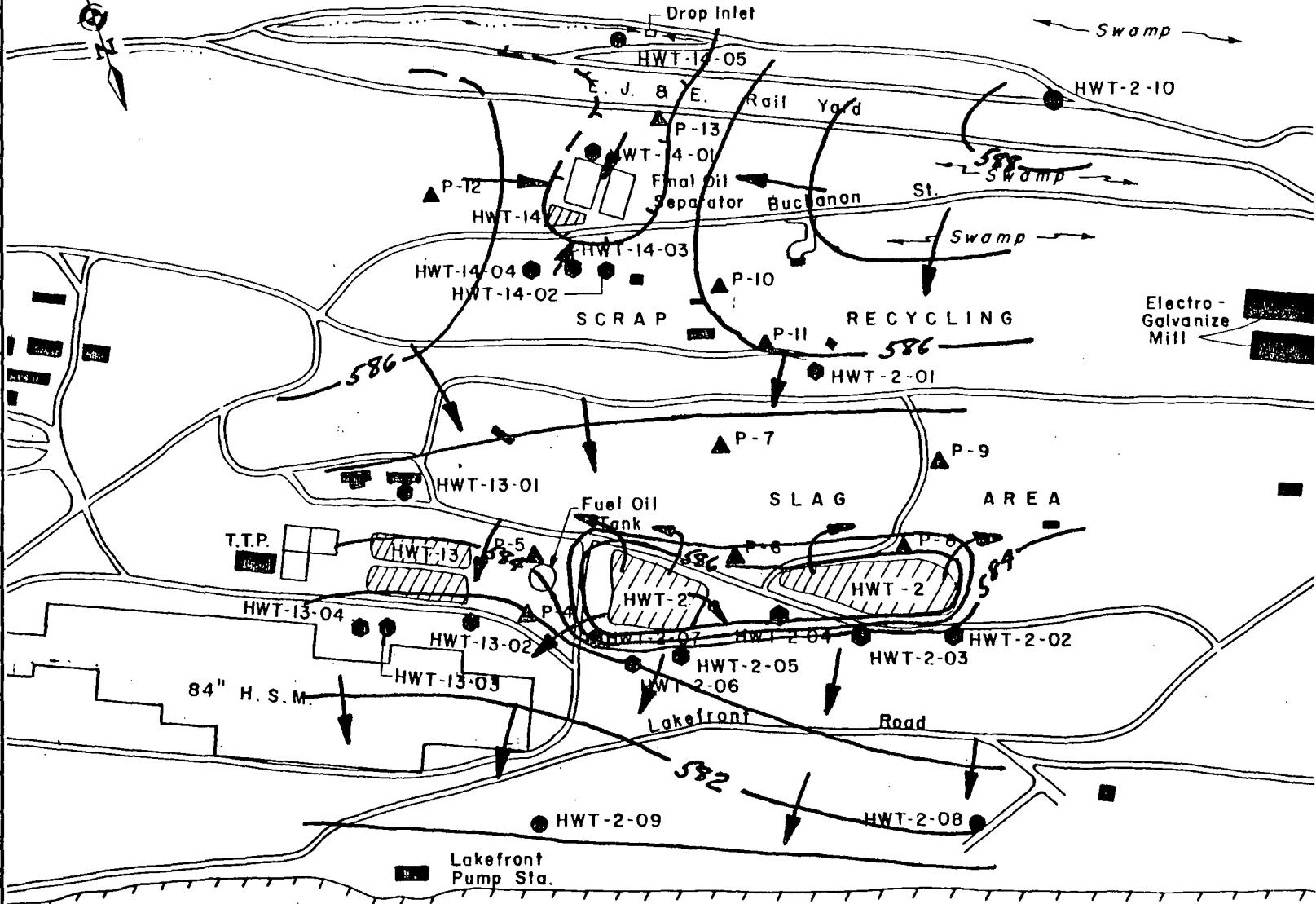
Division of MICHAEL BAKER CORP.

BAKER/ TSA

Scale: 1" : 665'

Date: July, 1984

WATER TABLE CONTOUR MAP
(Data of June 2, 1984)



UNITED STATES STEEL CORPORATION
GARRY WORKS SITES HWT-2, HWT-13, HWT-14

Prepared by
BAKER/ TSA
Division of MICHAEL BAKER CORP.

Scale: 1":665'

Date: July, 1984

WATER TABLE CONTOUR MAP
(Data of June 24, 1984)

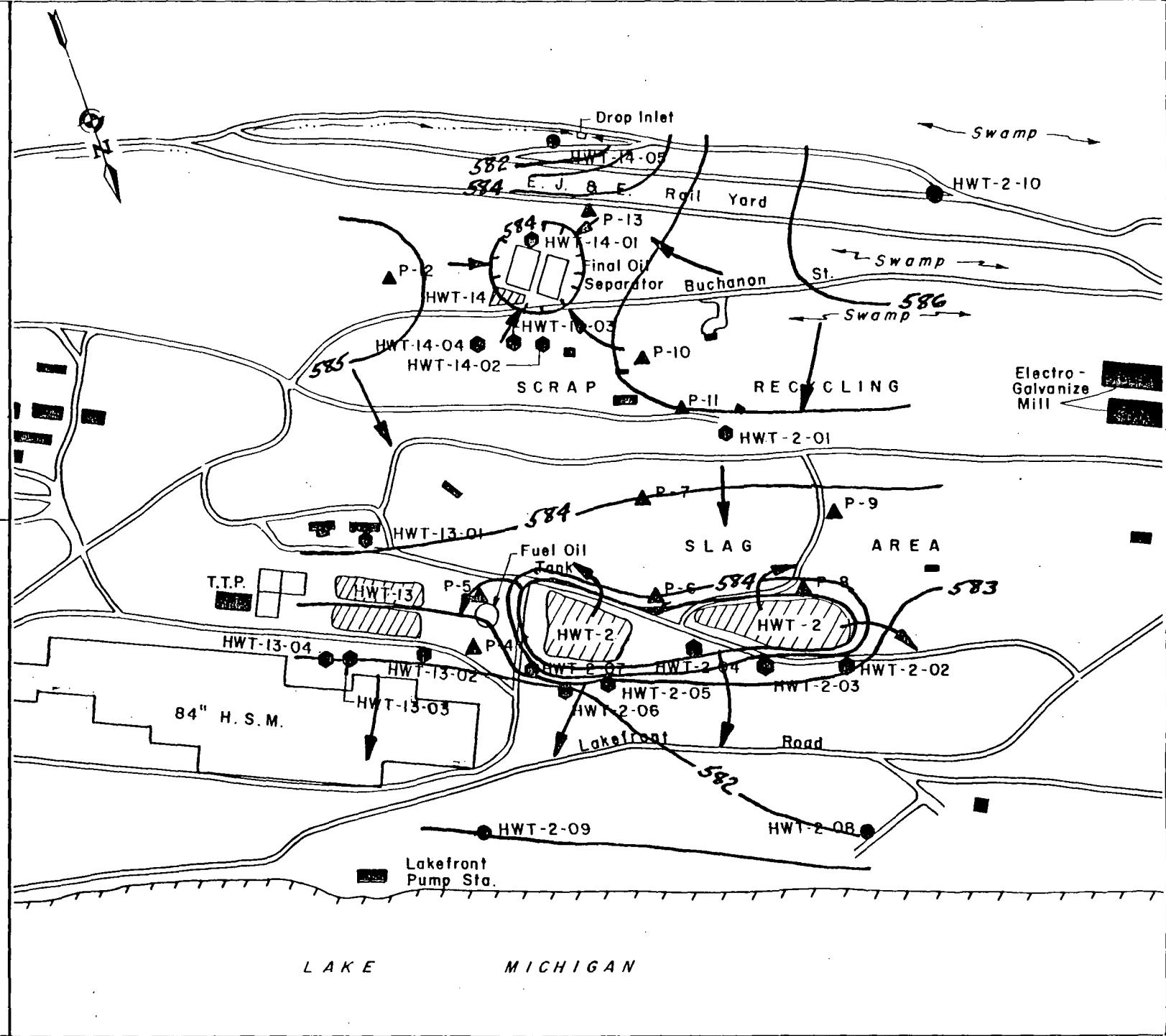
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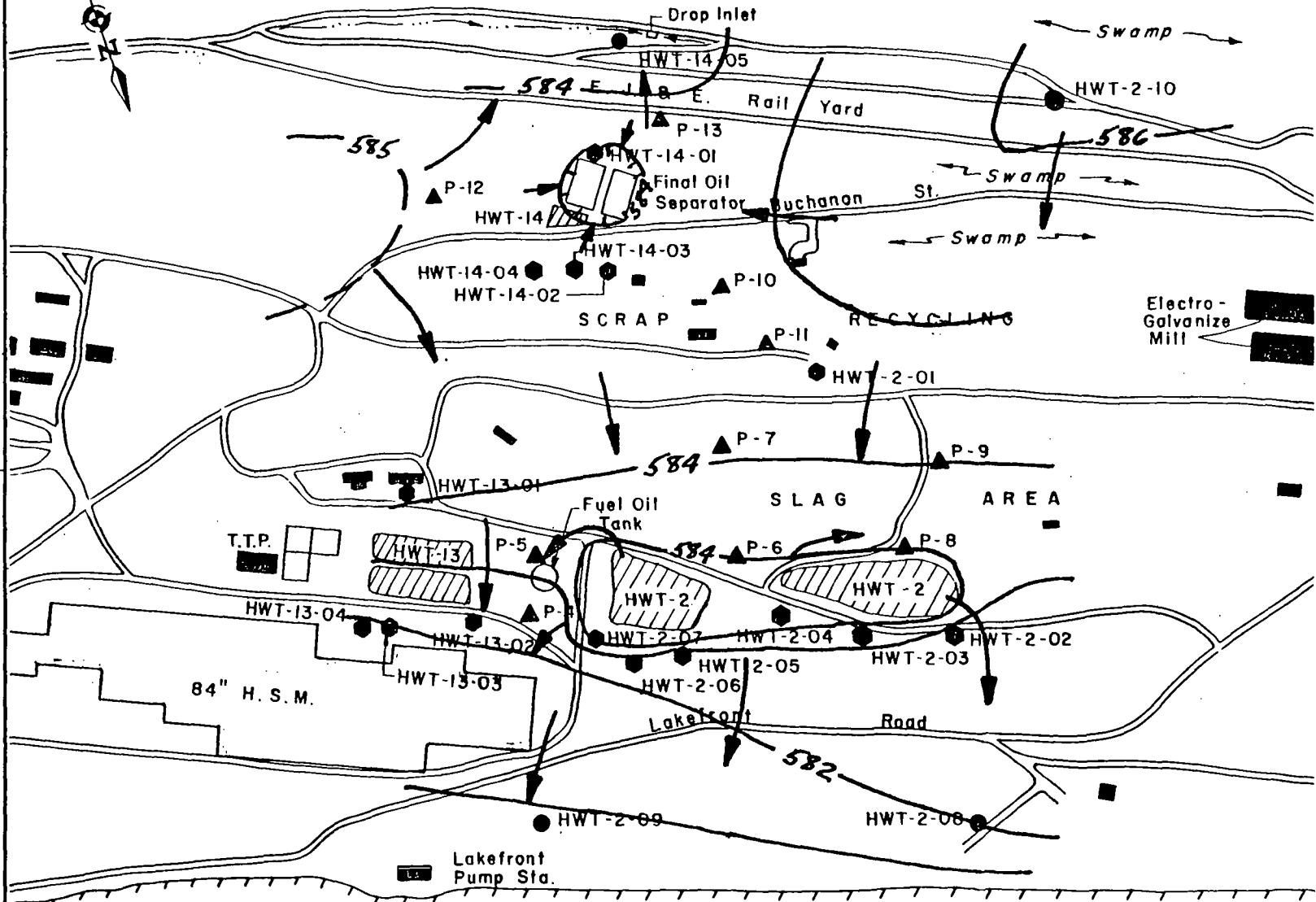
Date: May, 1985

UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14

(Data of August 4, 1984)

Prepared by
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Division of MICHAEL BAKER CORP.





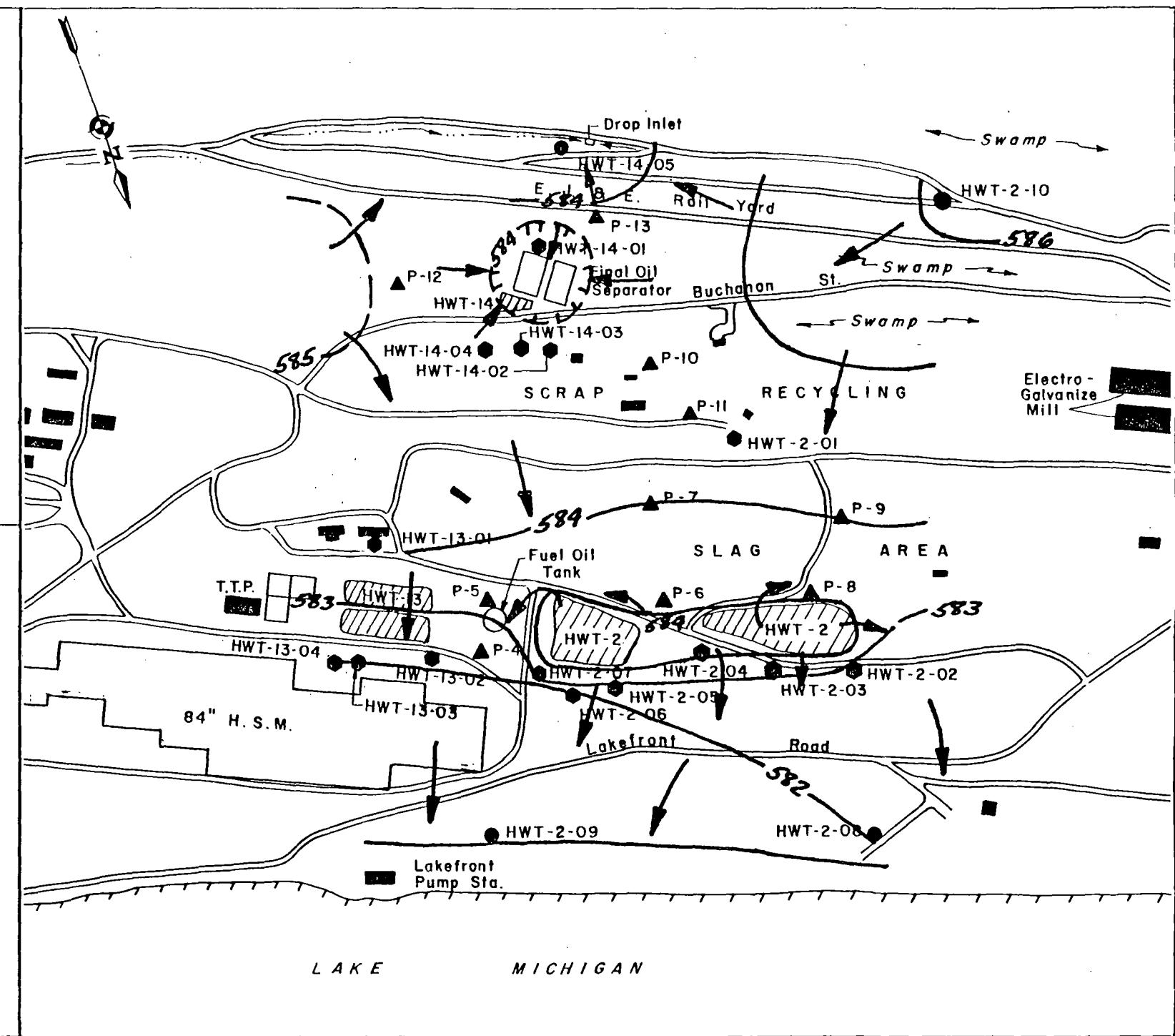
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Prepared by
BAKER/ TSA

Division of MICHAEL BAKER CORP.

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of September 2, 1984)



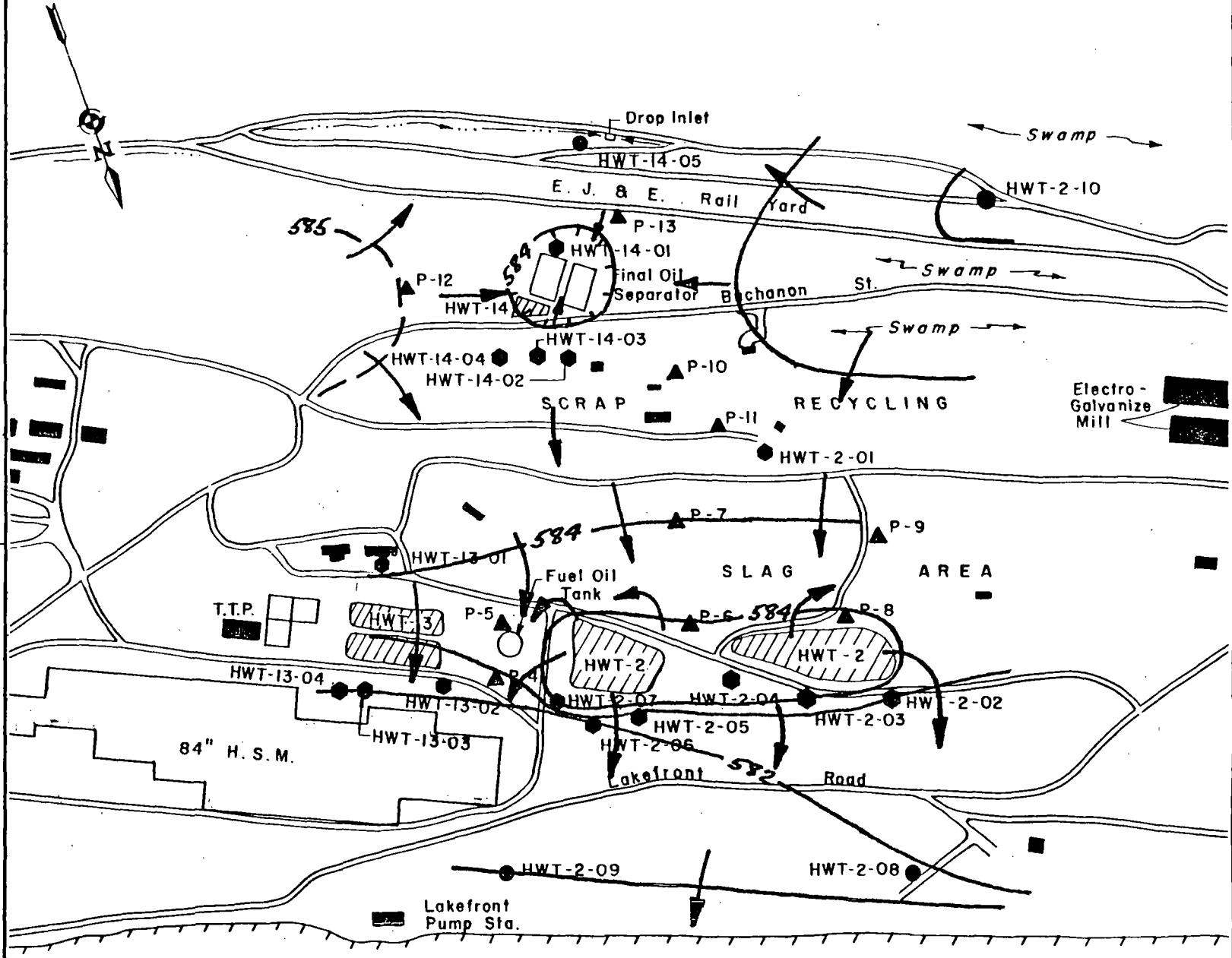
Scale: 1":665'

Date: May, 1985

Prepared by

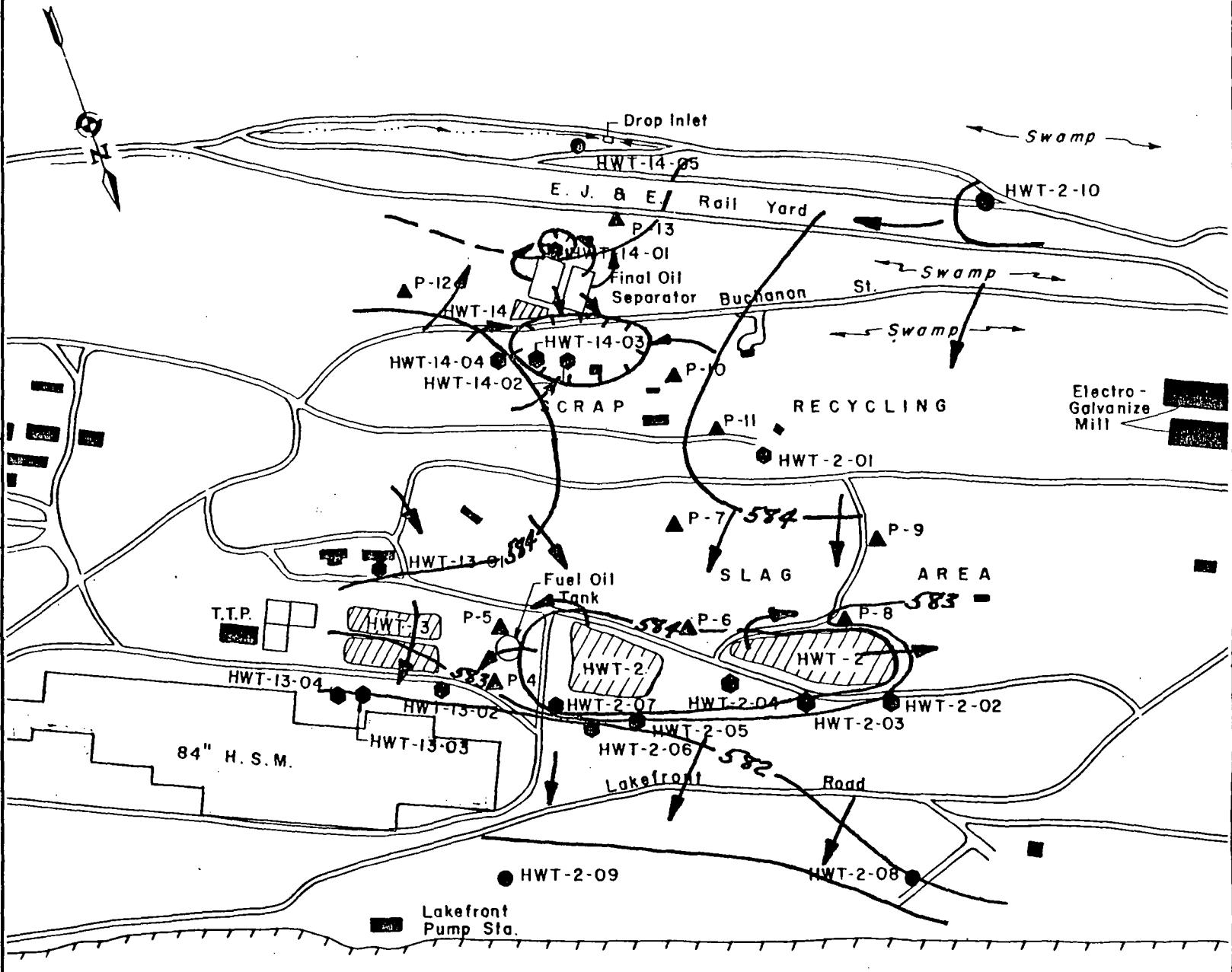
BAKER/ TSA
Division of MICHAEL BAKER CORP.

UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14
(Data of October 7, 1984)



LAKE

MICHIGAN



UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14

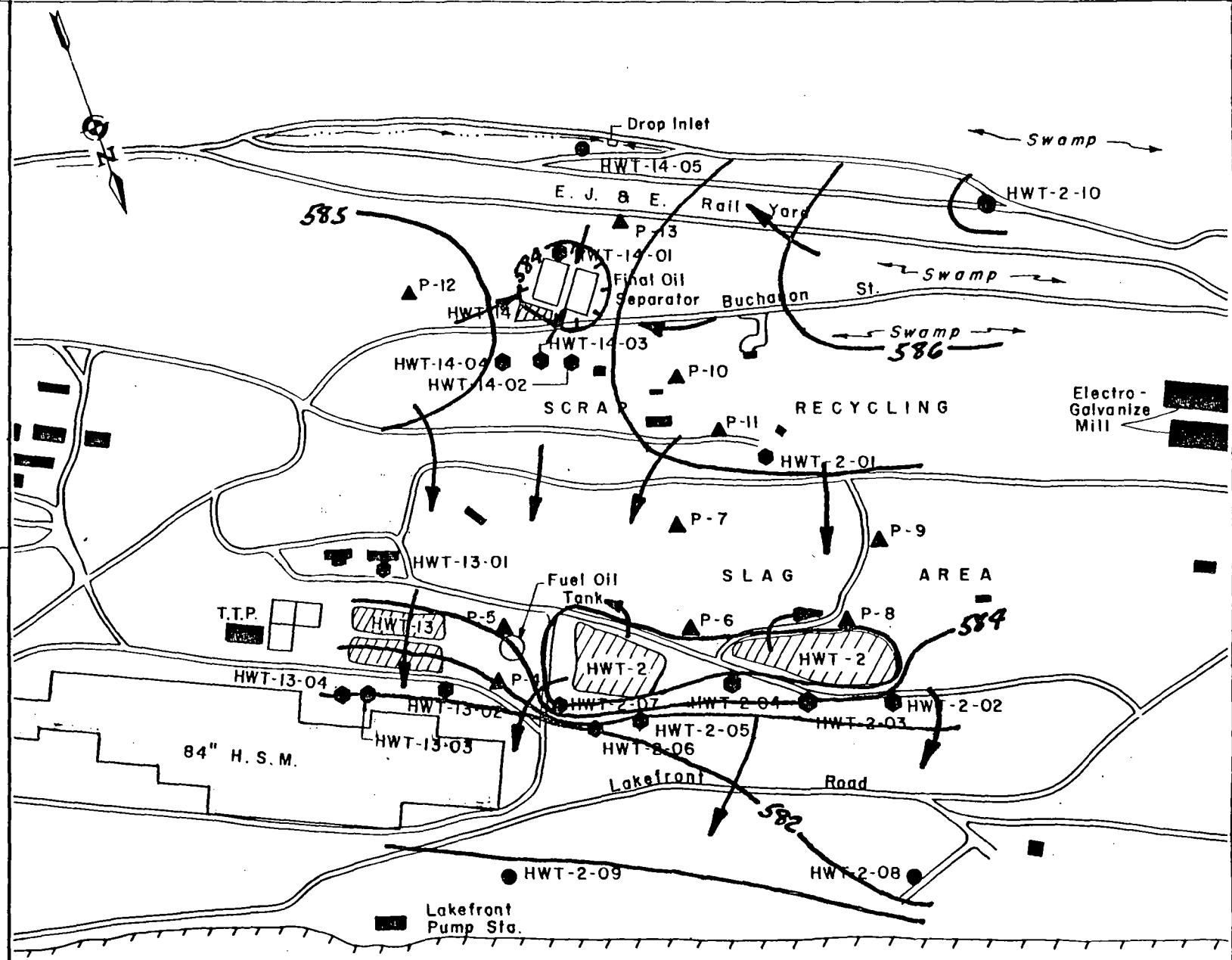
Prepared by
BAKER/ TSA

Division of MICHAEL BAKER CORP.

Scale: 1" : 665'

Date: May, 1985

WATER TABLE CONTOUR MAP
(Data of October 23-24, 1984)



UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14
(Data of December 2, 1984)

Prepared by

BAKER/ TSA

Division of MICHAEL BAKER CORP.

Scale: 1":665'

Date: May, 1985

WATER TABLE CONTOUR MAP

Scale: 1":665'

Date: May, 1985

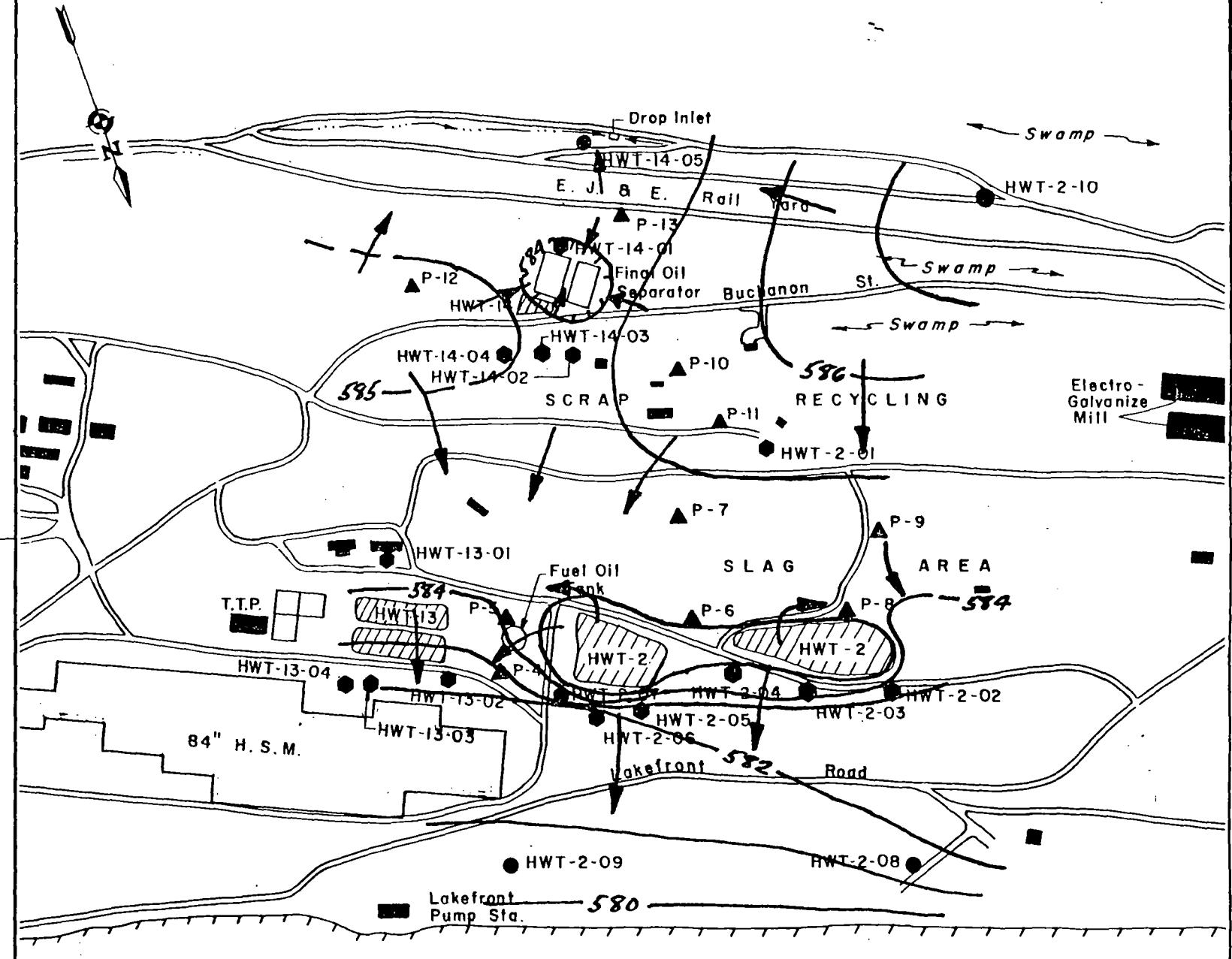
Division of MICHAEL BAKER CORP.

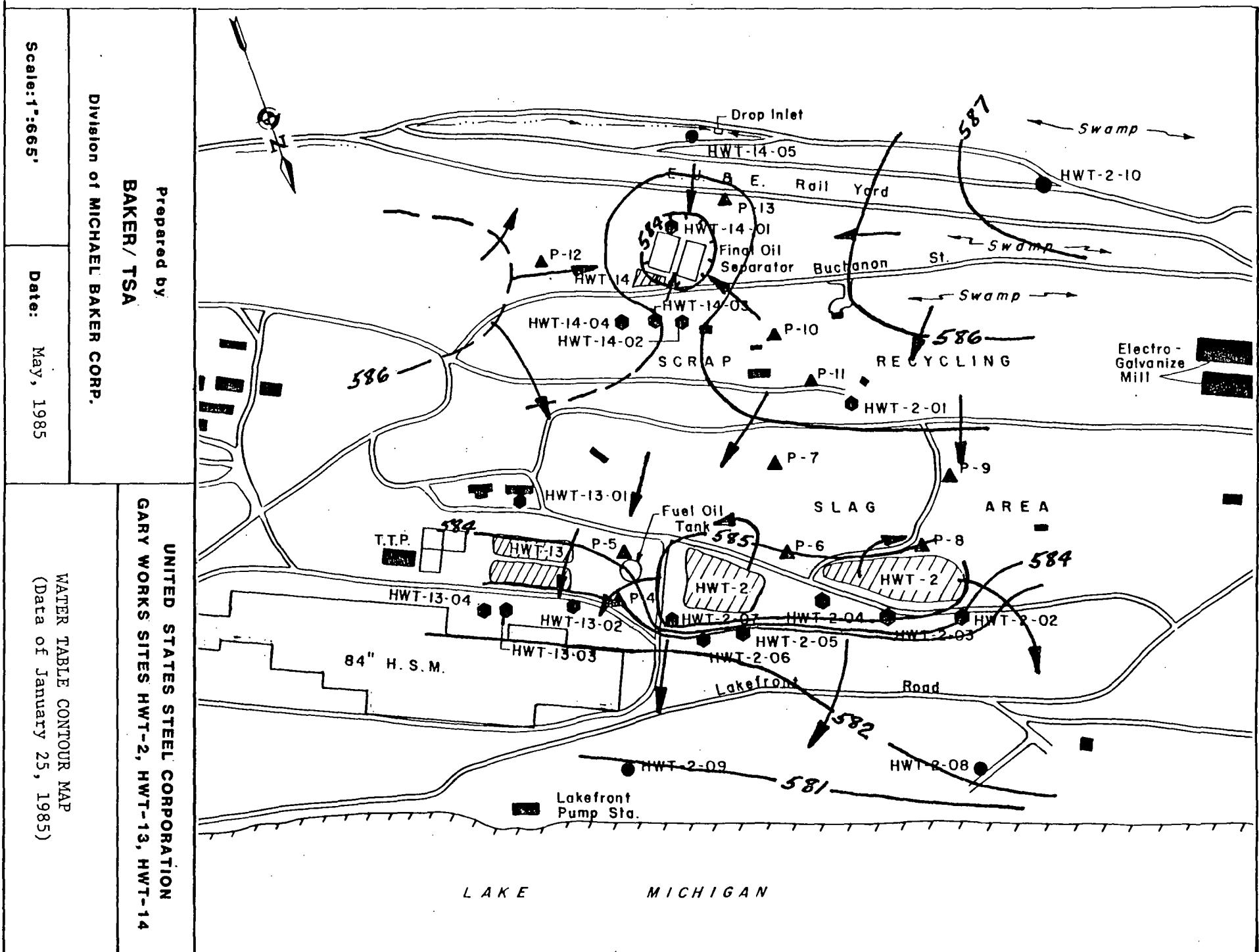
UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14

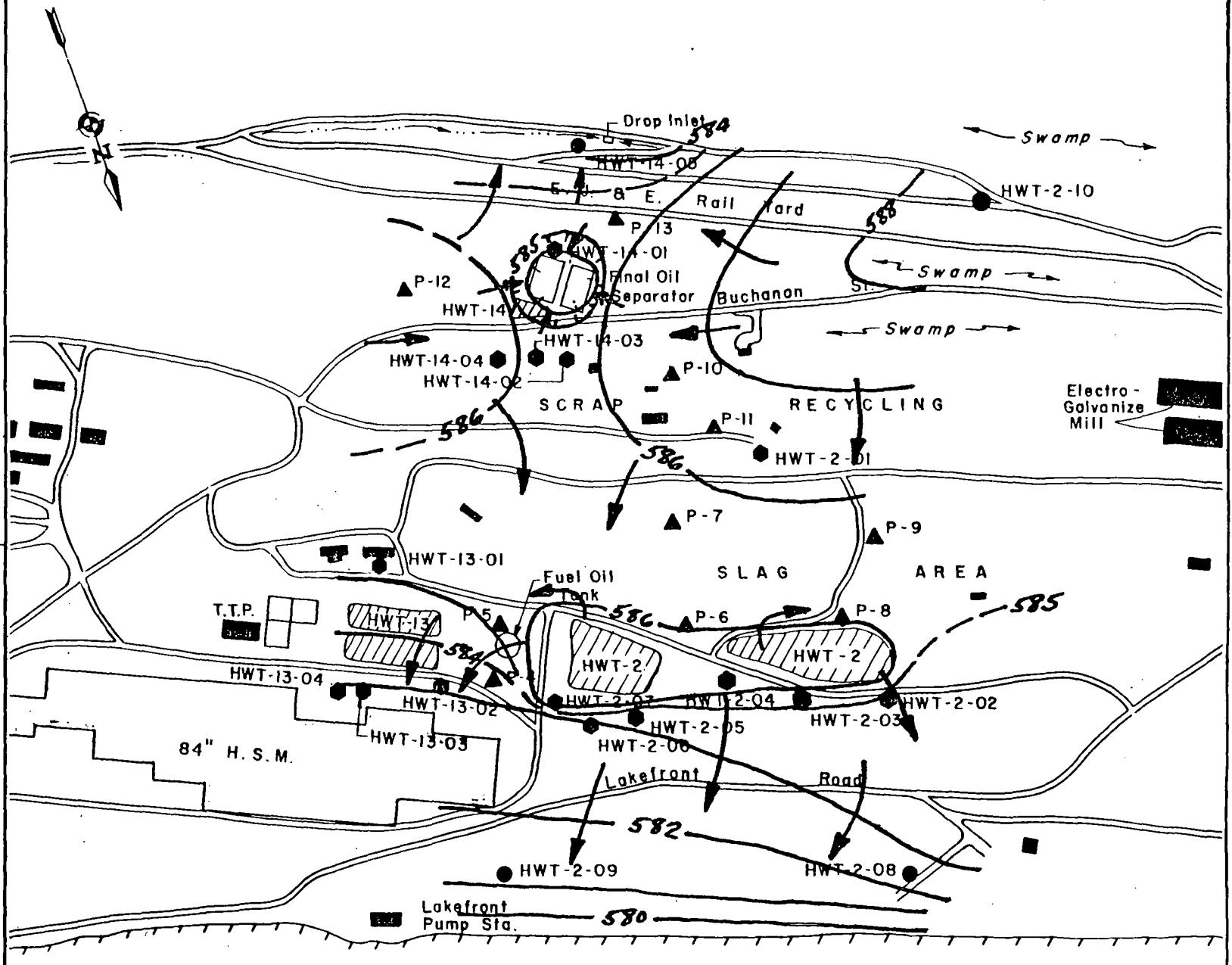
WATER TABLE CONTOUR MAP
(Data of December 29, 1984)

Prepared by

BAKER/ TSA







Division of MICHAEL BAKER CORP.

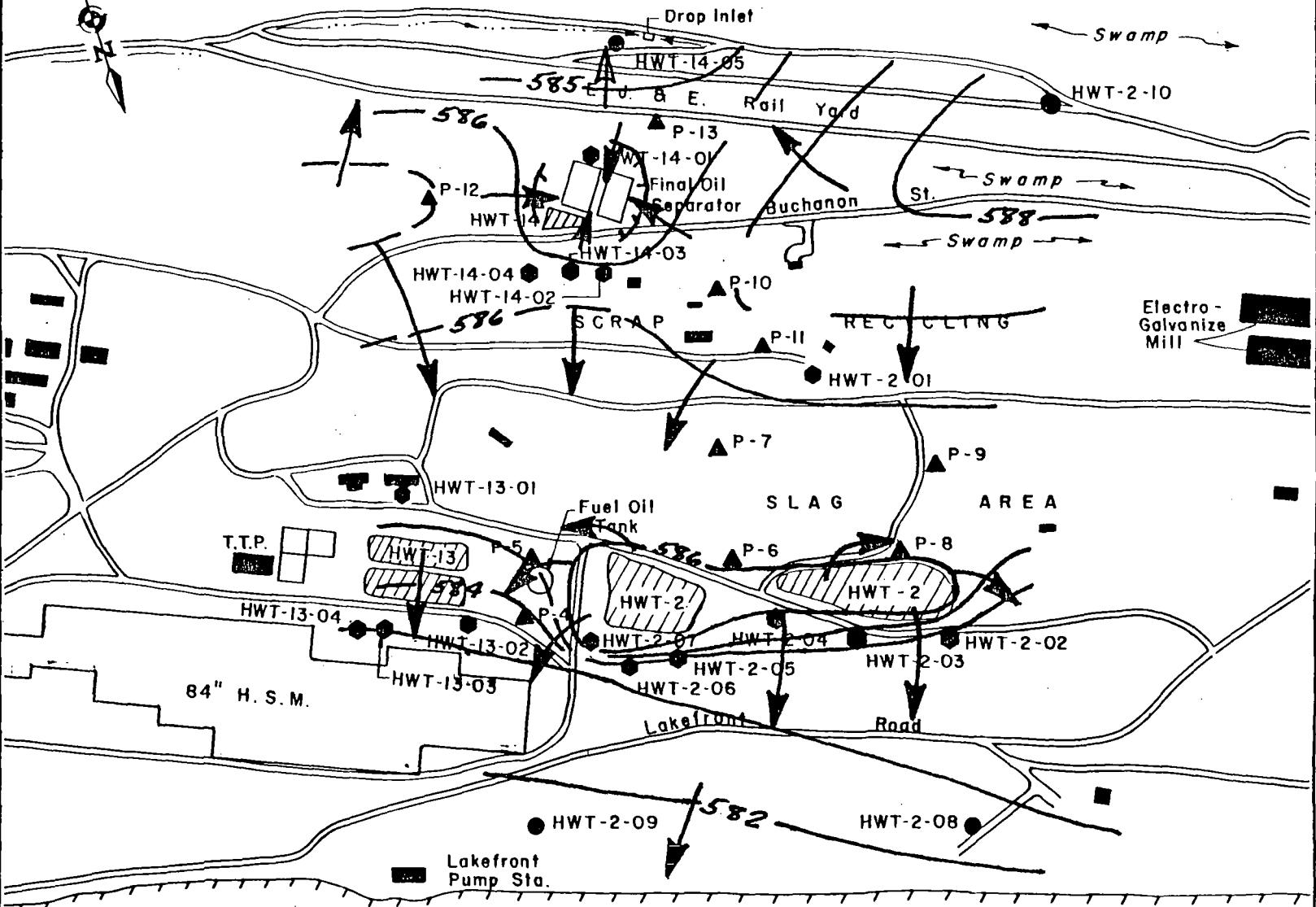
Prepared by
BAKER/ TSA

Scale: 1":665'

Date: May, 1985

UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14
(Data of March 1, 1985)

WATER TABLE CONTOUR MAP



UNITED STATES STEEL CORPORATION
GARY WORKS SITES HWT-2, HWT-13, HWT-14
(Data of April 15-16, 1985)

Prepared by
BAKER/ TSA
Division of MICHAEL BAKER CORP.

Scale: 1":665'
Date: May, 1985

WATER TABLE CONTOUR MAP

APPENDIX D
GROUNDWATER QUALITY DATA SUMMARIES
1983 TO PRESENT

SITE HWD-2

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 5

PARAMETER	UNIT	REGULATORY LEVEL	DOWN	HWD2-01	UP	HWD2-02	UP	HWD2-03	UP	HWD2-04
			04/26/83	04/25/83	04/25/83	04/25/83	04/25/83	04/25/83	04/25/83	04/25/83
ARSENIC	MG/L	0.05	0.041	LTO.002	0.001	LTO.001				
BARIUM	MG/L	1.0	0.1	LTO.1	LTO.1	0.2				
CADMIUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005				
CHROMIUM	MG/L	0.05	0.01	LTO.01	LTO.01	LTO.01				
FLUORIDE	MG/L	1.4-2.4	1.3	1.3	1.6	1.2				
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03				
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002				
NITRATE	MG/L	10.	LTO.2	17.	1.4	0.97				
SELENIUM	MG/L	0.01	LTO.002	0.011	LTO.002	LTO.002				
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01				
PH	SU		10.1	7.3	7.6	7.7				
PH	SU		10.1	7.4	7.6	7.7				
PH	SU		10.1	7.4	7.6	7.7				
PH	SU		10.1	7.4	7.6	7.7				
SPECIFIC CONDUCTANCE	UMHOS/CM		1280.	1760.	420.	670.				
SPECIFIC CONDUCTANCE	UMHOS/CM		1380.	1850.	370.	670.				
SPECIFIC CONDUCTANCE	UMHOS/CM		1350.	1970.	470.	620.				
SPECIFIC CONDUCTANCE	UMHOS/CM		1330.	2050.	410.	670.				
TOTAL ORGANIC CARBON	MG/L		26.	69.2	34.8	33.6				
TOTAL ORGANIC CARBON	MG/L		31.2	69.	35.4	33.				
TOTAL ORGANIC CARBON	MG/L		26.4	70.6	34.6	34.3				
TOTAL ORGANIC CARBON	MG/L		26.6	68.1	35.6	34.5				
TOTAL ORGANIC HALOGEN	UG/L		27.	29.	LT10.	33.				
TOTAL ORGANIC HALOGEN	UG/L		33.	26.	12.	28.				
TOTAL ORGANIC HALOGEN	UG/L		25.	27.	LT10.	24.				
TOTAL ORGANIC HALOGEN	UG/L		25.	24.	LT10.	24.				
GROUND WATER ELEVATION	FT WD		9.74	10.15	9.78	9.64				
TEMPERATURE	C		14.	14.	12.5	13.5				
NAPHTHALENE	UG/L		LT10.	LT10.	LT10.	LT10.				
CYANIDE, TOT	MG/L		0.12	0.14	0.064	0.024				
NICKEL	MG/L		NO DATA	NO DATA	NO DATA	NO DATA				

*-----
 (+)HWD2-03 (+)HWD2-04 * ***
 (DWGD) (DWGD) * * *
 (+)HWD2-02 ***** UP *
 (DWGD) ** UP * *
 ** * HWD-2 *
 * *
 # *-----
 (+)HWD2-01
 (DWGD)
 DW

#----- GARY WORKS * HWD-2 -----*

SAMPLING POINT, SAMPLE NO.
 DOWN GRADIENT UP GRADIENT UP GRADIENT UP GRADIENTHWD2-02 UP HWD2-03 UP HWD2-04
 04/25/83 04/25/83 04/25/83 04/25/83

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 02 YEAR: 83

(+)HWD2-03 (+)HWD2-04
 (DWGD) (DWGD)
 (+)HWD2-02 *** VP
 (DWGD) ** *
 VP ** *
 ** *
 * HWD-2 *
 * *
 ***** (+)HWD2-01
 (UPGD)

NORTH

PARAMETER	UNIT	REGULATORY LEVEL	SAMPLING POINT, SAMPLE NO.			
			HWD2-01 06/21/83 830279	HWD2-02 VP 06/21/83 830277	HWD2-03 VP 06/21/83 830276	HWD2-04 VP 06/21/83 830278
NICKEL	MG/L		LTO.03	LTO.03	LTO.03	LTO.03
SOLIDS, DISS. - TDS	MG/L		1050.	1180.	273.	446.
ARSENIC	MG/L	0.05	0.038	LTO.001	LTO.001	LTO.001
BARIUM	MG/L	1.0	LTO.1	LTO.1	LTO.1	0.1
CADMIUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005
CHLORIDE	MG/L		190.	82.	6.5	56.
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
IRON	MG/L		0.05	0.1	0.05	0.03
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03
MANGANESE	MG/L		LTO.01	1.1	0.3	0.5
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
PHENOLS	MG/L		0.028	LTO.01	LTO.01	LTO.01
SELENIUM	MG/L	0.01	LTO.002	0.012	0.005	LTO.002
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
SODIUM	MG/L		101.	85.9	5.96	35.5
SULFATE	MG/L		320.	400.	50.	90.
PH	SU		10.1	7.1	6.8	7.2
PH	SU		10.1	7.	7.2	7.3
PH	SU		10.1	7.1	7.2	7.3
PH	SU		10.1	7.	7.1	7.3
SPECIFIC CONDUCTANCE	UMHOS/CM		1110.	1350.	399.	620.
SPECIFIC CONDUCTANCE	UMHOS/CM		1090.	1220.	391.	620.
SPECIFIC CONDUCTANCE	UMHOS/CM		1170.	1410.	399.	620.
SPECIFIC CONDUCTANCE	UMHOS/CM		1270.	1320.	400.	620.
TOTAL ORGANIC CARBON	MG/L		23.9	54.7	27.2	35.1
TEMPERATURE	C		14.5	15.	15.	15.
GROUND WATER ELEVATION	FT WD		9.16	9.84	9.52	9.4

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

PARAMETER	UNIT
ARSENIC	MG/L
BARIUM	MG/L
CADMUM	MG/L
CHROMIUM	MG/L
FLUORIDE	MG/L
LEAD	MG/L
MERCURY	MG/L
NITRATE	MG/L
SELENIUM	MG/L
SILVER	MG/L
CHLORIDE	MG/L
IRON	MG/L
MANGANESE	MG/L
PHENOLS	MG/L
SODIUM	MG/L
SULFATE	MG/L
PH	SU
SPECIFIC CONDUCTANCE	UMHOS/CM
TOTAL ORGANIC CARBON	MG/L
TOTAL ORGANIC HALOGEN	UG/L
TEMPERATURE	C
GROUND WATER ELEVATION	FT WD
CYANIDE, TOTAL, TIT.	MG/L
ACENAPHTHENE	UG/L
ACENAPHTHYLENE	UG/L

DOWN	HWD2-01 GRADIENT 10/25/83 831303	HWD2-02 DOWNGRADIENT UP 10/25/83 831304	HWD2-03 DOWNGRADIENT UP 10/25/83 831301	HWD2-04 DOWNGRADIENT UP 10/25/83 831300
0.032	LT0.001	LT0.001	LT0.001	LT0.001
LT0.1	LT0.1	LT0.1	LT0.1	LT0.1
LT0.005	LT0.005	LT0.005	LT0.005	LT0.005
LT0.01	LT0.01	LT0.01	LT0.01	LT0.01
1.8	1.9	2.3	1.4	
LT0.03	LT0.03	LT0.03	LT0.03	LT0.03
LT0.0002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
1.6	16.	0.26	1.5	
LT0.002	0.017	0.005	0.002	
LT0.01	LT0.01	LT0.01	LT0.01	LT0.01
180.	62.	6.8	39.	
0.05	0.09	0.04	0.01	
LT0.01	1.15	0.29	0.53	
0.078	LT0.01	LT0.01	LT0.01	LT0.01
90.5	83.6	6.77	22.2	
320.	430.	60.	120.	
10.1	7.6	7.2	7.4	
10.1	7.8	7.4	7.3	
10.1	7.7	7.3	7.4	
10.1	7.7	7.3	7.2	
1370.	1520.	406.	680.	
1370.	1530.	402.	690.	
1380.	1550.	407.	660.	
1370.	1530.	406.	660.	
24.4	56.2	27.2	35.7	
24.4	59.3	27.9	36.3	
24.1	55.7	26.8	35.2	
24.4	59.8	26.6	34.1	
17.	12.	21.	25.	
12.	LT10.	29.	30.	
12.	14.	22.	29.	
14.	LT10.	27.	27.	
13.	13.	11.	11.	
8.56	9.04	8.66	8.47	
0.11	0.15	0.085	0.052	
LT10.	LT10.	LT10.	LT10.	
LT10.	LT10.	LT10.	LT10.	

(+) HWD2-03 (+) HWD2-04 *
 (DWGD) (DWGD) ***
(+) HWD2-02 *****DP*****UP * * *
 (DWGD) DP *
 UP ** *
 ** *
 * *
 * *
 * *
HWD-2 *
 *
 *

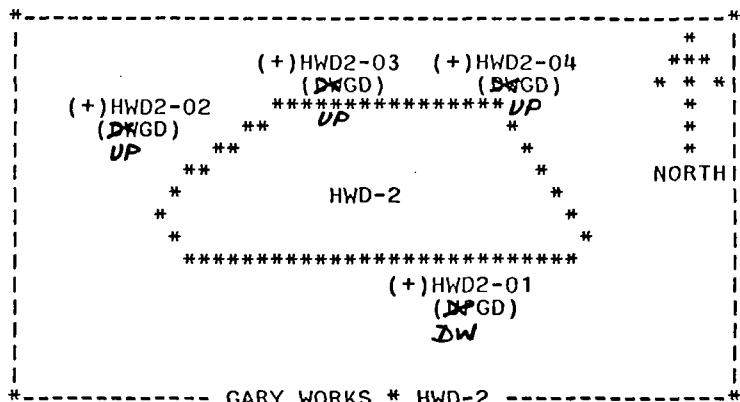
(+) HWD2-01
 (DWGD)
 DW

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL



PARAMETER	UNIT	REGULATORY LEVEL	DOWN	HWD2-01	GRADIENT	UP 10/25/83 831303	HWD2-02	GRADIENT	UP 10/25/83 831304	HWD2-03	GRADIENT	UP 10/25/83 831301	HWD2-04	GRADIENT	UP 10/25/83 831300
ANTHRACENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
BENZIDINE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
BENZO (A) ANTHRACENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT20.	LT20.		LT20.	LT20.		LT20.
BENZO (A) PYRENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BENZO (B) FLUORANTHENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BENZO (G, H, I) PERYLENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BENZO (K) FLUORANTHENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BIS (2-CHLOROETHOXY) MET	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BIS (2-CHLOROETHYL) ETHE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
BIS (2-CHLOROISOPROPYL)	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
BIS (2-ETHYLHEXYL) PHTHA	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
4-BROMOPHENYL PHENYL ETH	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
BENZYL BUTYL PHTHALATE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
2-CHLORONAPHTHALENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
4-CHLOROPHENYL PHENYL ET	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
CHRYSENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
DIBENZO (A, H) ANTHRACENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
1,2-DICHLOROBENZENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
1,3-DICHLOROBENZENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
1,4-DICHLOROBENZENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
3,3-DICHLOROBENZIDINE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
DIETHYL PHTHALATE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
DIMETHYL PHTHALATE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
DI-N-BUTYLPHthalate	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
2,4-DINITROTOLUENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
2,6-DINITROTOLUENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
DI-N-OCTYLPHthalate	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
1,2-DIPHENYLHYDRAZINE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
FLUORANTHENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
FLUORENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
HEXACHLOROBENZENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
HEXACHLOROBUTADIENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
HEXACHLOROCYCLOPENTADIEN	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
HEXACHLOROETHANE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
INDENO (1,2,3-CD) PYRENE	UG/L		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.	LT20.		LT20.
ISOPHORONE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.
NAPHTHALENE	UG/L		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.	LT10.		LT10.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

PARAMETER	UNIT
NITROBENZENE	UG/L
N-NITROSODIMETHYLAMINE	UG/L
N-NITROSODI-N-PROPYLAMINE	UG/L
N-NITROSODIPHENYLAMINE	UG/L
PHENANTHRENE	UG/L
PYRENE	UG/L
1,2,4-TRICHLOROBENZENE	UG/L

	HWD2-01 GRADIENT REGULATORY LEVEL	HWD2-02 GRADIENT 10/25/83 831303	HWD2-03 GRADIENT UP 10/25/83 831304	HWD2-04 GRADIENT UP 10/25/83 831301
LT10.	LT10.	LT10.	LT10.	LT10.
LT50.	LT50.	LT50.	LT50.	LT50.
LT10.	LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.	LT10.

*----- GARY WORKS * HWD-2 -

NG POINT, SAMPLE NO.
HWD2-03 HWD2-04
~~DOWNGRADIENT~~ ~~UPGRADIENT~~
UP 10/25/83 UP 10/25/83
831301 831300

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	DOWN HWD2-01 GRADIENT	DOWN HWD2-01 GRADIENT	DOWN HWD2-01 GRADIENT
ARSENIC	MG/L	0.05	0.032	0.002	LTO.001
BARIUM	MG/L	1.0	0.1	0.1	0.1
CADMUM	MG/L	0.01	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	1.1	1.3	2.
LEAD	MG/L	0.05	0.1	LTO.03	LTO.03
MERCURY	MG/L	0.002	0.0004	LTO.0002	LTO.0002
NITRATE	MG/L	10.	LTO.1	5.5	1.6
SELENIUM	MG/L	0.01	LTO.004	0.006	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01
PH	SU	9.8	7.3	6.8	7.5
PH	SU	9.8	7.3	7.2	7.4
PH	SU	9.8	7.2	7.4	7.3
PH	SU	9.7	7.2	7.4	7.2
SPECIFIC CONDUCTANCE	UMHOS/CM	1300.	1820.	428.	670.
SPECIFIC CONDUCTANCE	UMHOS/CM	1320.	1730.	469.	700.
SPECIFIC CONDUCTANCE	UMHOS/CM	1320.	1800.	424.	670.
SPECIFIC CONDUCTANCE	UMHOS/CM	1300.	1730.	460.	670.
TOTAL ORGANIC CARBON	MG/L	26.2	54.5	23.9	34.5
TOTAL ORGANIC CARBON	MG/L	27.3	54.9	24.6	32.1
TOTAL ORGANIC CARBON	MG/L	27.5	49.6	27.4	35.
TOTAL ORGANIC CARBON	MG/L	26.7	51.9	26.5	35.2
TOTAL ORGANIC HALOGEN	UG/L	LT10.	19.	17.	22.
TOTAL ORGANIC HALOGEN	UG/L	14.	27.	16.	29.
TOTAL ORGANIC HALOGEN	UG/L	12.	30.	LT10.	20.
TOTAL ORGANIC HALOGEN	UG/L	21.	25.	LT10.	17.
ACENAPHTHENE	UG/L	LT5.	LT5.	LT5.	LT5.
ACENAPHTHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.
ANTHRACENE	UG/L	LT5.	LT5.	LT5.	LT5.
BENZIDINE	UG/L	LT20.	LT20.	LT20.	LT20.
BENZO (A) ANTHRACENE	UG/L	LT5.	LT5.	LT5.	LT5.
BENZO (A) PYRENE	UG/L	LT10.	LT10.	LT10.	LT10.
BENZO (B) FLUORANTHENE	UG/L	LT10.	LT10.	LT10.	LT10.
BENZO (G, H, I) PERYLENE	UG/L	LT10.	LT10.	LT10.	LT10.
BENZO (K) FLUORANTHENE	UG/L	LT10.	LT10.	LT10.	LT10.
BIS (2-CHLOROETHOXY) METHANE	UG/L	LT10.	LT10.	LT10.	LT10.
BIS (2-CHLOROETHYL) ETHER	UG/L	LT5.	LT5.	LT5.	LT5.

*	(+)HWD2-03 (DWGD)	(+)HWD2-04 (DWGD)	*
	(+)HWD2-02 (DWGD)	*****UP*****	*
	UP	**	*
	**		*
	*	HWD-2	*
	*		*
	*****	*****	*
	(+)HWD2-01 (DWGD)	DW	

NORTH

#----- GARY WORKS * HWD-2 -----#

SAMPLING POINT, SAMPLE NO.	HWD2-02	HWD2-03	HWD2-04
DOWN GRADIENT	UP 04/30/84	UP 04/30/84	UP 04/30/84
	840526	840527	840528
LTO.001	LTO.005	LTO.005	LTO.005
0.1	0.1	0.1	0.1
LTO.01	LTO.01	LTO.01	LTO.01
1.3	2.	1.4	
LTO.03	LTO.03	LTO.03	0.11
0.006	LTO.004	LTO.004	LTO.004
LTO.01	LTO.01	LTO.01	LTO.01
5.5	1.6	2.	
LTO.0002	LTO.0002	LTO.0002	LTO.0002
6.8	7.2	7.4	
LTO.002	LTO.002	LTO.002	LTO.002
7.5	7.4	7.3	
LTO.01	LTO.01	LTO.01	LTO.01
7.2	7.4	7.2	
LTO.004	LTO.004	LTO.004	LTO.004
428.	469.	424.	670.
460.	460.	460.	670.
23.9	24.6	27.4	34.5
24.6	27.4	27.4	32.1
26.5	26.5	26.5	35.
17.	17.	17.	35.2
LT5.	LT5.	LT5.	LT5.
LT5.	LT5.	LT5.	LT5.
LT5.	LT5.	LT5.	LT5.
LT20.	LT20.	LT20.	LT20.
LT5.	LT5.	LT5.	LT5.
LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.
LT10.	LT10.	LT10.	LT10.
LT5.	LT5.	LT5.	LT5.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	DRINKING WATER STANDARD	04/30/84	DP 04/30/84 840529	DP 04/30/84 840526	DP 04/30/84 840527	DP 04/30/84 840528
BIS (2-CHLOROISOPROPYL) ETHER	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
BIS (2-ETHYLHEXYL) PHTHALATE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
4-BROMOPHENYL PHENYL ETHER	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
BENZYL BUTYL PHTHALATE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
2-CHLORONAPHTHALENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
4-CHLOROPHENYL PHENYL ETHER	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CHRYSENE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
DIBENZO (A, H) ANTHRACENE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
1,2-DICHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,3-DICHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,4-DICHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
3,3-DICHLOROBENZIDINE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
DIETHYL PHTHALATE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
DIMETHYL PHTHALATE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
DI-N-BUTYLPHTHALATE	UG/L		LT20.	LT20.	LT20.	LT20.	LT20.
2,4-DINITROTOLUENE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
2,6-DINITROTOLUENE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
DI-N-OCTYLPHTHALATE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DIPHENYLHYDRAZINE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
FLUORANTHENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
FLUORENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
HEXACHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
HEXACHLOROBUTADIENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
HEXACHLOROCYCLOPENTADIENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
HEXACHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
INDENO (1,2,3-CD) PYRENE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
ISOPHORONE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
NAPHTHALENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
NITROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
N-NITROSODIMETHYLAMINE	UG/L		LT25.	LT25.	LT25.	LT25.	LT25.
N-NITROSODI-N-PROPYLAMINE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
N-NITROSODIPHENYLAMINE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
PHENANTHRENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
PYRENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2,4-TRICHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CYANIDE, TOTAL, TIT.	MG/L	0.098	0.19	0.074	0.032		
NICKEL	MG/L	NO DATA	NO DATA	NO DATA	NO DATA		

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-2
 SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER
 TEMPERATURE
 GROUND WATER ELEVATION

	UNIT
C	FT MSL

PRIMARY DRINKING WATER DOWN HWD2-01
 STANDARD 04/30/84
 840529

*----- GARY WORKS * HWD-2 -----*

SAMPLING POINT, SAMPLE NO.	HWD2-02	HWD2-03	HWD2-04
DOWNGRADIENT	UP 04/30/84	UP 04/30/84	UP 04/30/84
	840526	840527	840528
13.	14.	13.	12.5
587.87	588.53	588.31	588.16

*-----

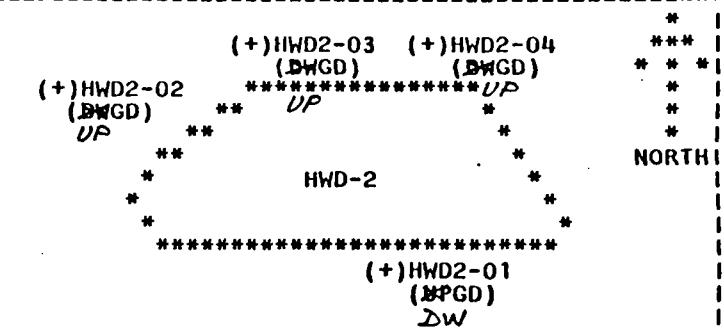
(+)HWD2-03	(+)HWD2-04	*
(DAGD)	(DAGD)	***
(+)HWD2-02	***** UP *****	* * *
(DAGD)	**	*
UP		*
	**	*
	*	*
	*	*
	*****	*
	(+)HWD2-01	NORTH
	(DAGD)	
	DW	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 02 AUG 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT



*----- GARY WORKS * HWD-2 -
LING POINT. SAMPLE NO.

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	GRADIENT		UP 06/25/84	UP 06/25/84	UP 06/25/84	UP 06/25/84
			06/25/84	840707		840704	840705	840706
ARSENIC	MG/L	0.05	0.035		LTO.001	LTO.001	LTO.001	LTO.001
BARIUM	MG/L	1.0	LTO.1		LTO.1	LTO.1	LTO.1	LTO.1
CADMUM	MG/L	0.01	LTO.005		LTO.005	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01		0.01	0.01	LTO.01	LTO.01
LEAD	MG/L	0.05	LTO.03		LTO.03	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002		0.0003	LTO.0002		0.0002
SELENIUM	MG/L	0.01	LTO.004		LTO.004	LTO.004		LTO.004
SILVER	MG/L	0.05	LTO.01		LTO.01	LTO.01		LTO.01
CHLORIDE	MG/L		160.		18.	12.		63.
IRON	MG/L		0.01		0.12	LTO.01		LTO.01
MANGANESE	MG/L		LTO.01		1.41	0.29		0.55
PHENOLS	MG/L		0.098		LTO.02	LTO.02		LTO.02
SODIUM	MG/L		93.		115.	8.		34.
SULFATE	MG/L		250.		360.	44.		110.
PH	SU		10.		7.4	7.4		7.5
PH	SU		10.		7.4	7.3		7.5
PH	SU		10.		7.3	7.3		7.4
PH	SU		10.		7.4	7.3		7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		1140.		1800.	403.		700.
SPECIFIC CONDUCTANCE	UMHOS/CM		1140.		1730.	406.		650.
SPECIFIC CONDUCTANCE	UMHOS/CM		1120.		1720.	404.		710.
SPECIFIC CONDUCTANCE	UMHOS/CM		1150.		1730.	416.		710.
TOTAL ORGANIC CARBON	MG/L		22.8		59.3	18.4		20.3
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA		NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA		NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA		NO DATA
TOTAL ORGANIC HALOGEN	UG/L		LTO10.		21.	LTO10.		10.
NICKEL	MG/L		0.03		0.03	LTO.03		LTO.03
SOLIDS, DISS. - TDS	MG/L		1020.		1470.	271.		580.
TEMPERATURE	C		14.5		15.	13.		14.
GROUND WATER ELEVATION	FT MSL		587.86		588.62	588.41		588.27

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 08 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT
ARSENIC	MG/L
BARIUM	MG/L
CADMIUM	MG/L
CHROMIUM	MG/L
FLUORIDE	MG/L
LEAD	MG/L
MERCURY	MG/L
NITRATE	MG/L
SELENIUM	MG/L
SILVER	MG/L
CHLORIDE	MG/L
IRON	MG/L
MANGANESE	MG/L
PHENOLS	MG/L
SODIUM	MG/L
SULFATE	MG/L
PH	SU
SPECIFIC CONDUCTANCE	UMHOOS/CM
TOTAL ORGANIC CARBON	MG/L
TOTAL ORGANIC HALOGEN	UG/L
ACROLEIN	UG/L
ACRYLONITRILE	UG/L
BENZENE	UG/L
BROMOFORM	UG/L
CARBON TETRACHLORIDE	UG/L

*----- GARY WORKS * HWD-2
PLING POINT, SAMPLE NO.

SAMPLING POINT, SAMPLE NO.				
DOWN	HWD2-01 DEGRADIENT TER	HWD2-02 DEGRADIENT	HWD2-03 DEGRADIENT	HWD2-04 DEGRADIENT
	10/22/84 840988	UP 10/22/84 840992	UP 10/22/84 840990	UP 10/22/84 840989
0.037	LT0.001	LT0.001	LT0.001	LT0.001
LT0.1	0.1	0.1	LT0.1	LT0.1
LT0.005	0.008	LT0.005	LT0.005	LT0.005
LT0.01	LT0.01	LT0.01	LT0.01	LT0.01
1.7	1.6	1.8	1.6	1.6
LT0.03	LT0.03	LT0.03	LT0.03	LT0.03
LT0.0002	LT0.0002	0.0002	LT0.0002	LT0.0002
0.4	5.7	2.6	3.2	3.2
LT0.004	0.006	0.004	LT0.004	LT0.004
LT0.01	LT0.01	LT0.01	LT0.01	LT0.01
140.	4.1	17.	75.	75.
LT0.01	0.09	LT0.01	LT0.01	LT0.01
LT0.01	1.5	0.3	0.5	0.5
0.043	LT0.02	LT0.02	LT0.02	LT0.02
85.	96.	8.	47.	47.
270.	380.	95.	140.	140.
10.2	7.	7.7	7.6	7.6
10.2	7.	7.6	7.6	7.6
10.2	7.	7.6	7.4	7.4
10.2	7.	7.7	7.5	7.5
1240.	1820.	540.	850.	850.
1220.	1800.	540.	850.	860.
1220.	1800.	540.	850.	860.
1150.	1830.	540.	850.	850.
22.2	82.8	21.3	28.1	28.1
22.6	82.4	19.6	28.	28.
21.8	84.	20.6	27.	27.
22.7	83.8	22.8	27.3	27.3
LT10.	30.	LT10.	13.	LT10.
LT10.	LT10.	LT10.	LT10.	LT10.
LT10.	28.	LT10.	LT10.	LT10.
LT10.	17.	LT10.	LT10.	LT10.
LT100.	LT100.	LT100.	LT100.	LT100.
LT100.	LT100.	LT100.	LT100.	LT100.
18.	LT5.	LT5.	LT5.	LT5.
LT10.	LT10.	LT10.	LT10.	LT10.
LT5.	LT5.	LT5.	LT5.	LT5.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 08 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	DRINKING WATER STANDARD	10/22/84	10/22/84	10/22/84	10/22/84
			840988	840992	840990	840991
CHLOROBENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
CHLORODIBROMOMETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
CHLOROETHANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
2-CHLOROETHYL VINYL ETHER	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
CHLOROFORM	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
DICHLOROBROMOMETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,1-DICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROETHANE	UG/L	LT1.	LT1.	LT1.	LT1.	LT1.
1,1-DICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROPROPANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
1,3-DICHLOROPROPYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
ETHYL BENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
METHYL BROMIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
METHYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
METHYLENE CHLORIDE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
TETRACHLOROETHYLENE (PERCHLORO)	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
TOLUENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-TRANS-DICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,1-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
TRICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.
VINYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L	0.079	0.16	0.063	0.041	
TEMPERATURE	C	13.	14.	13.	13.	
GROUND WATER ELEVATION	FT MSL	586.82	587.13	586.95	586.83	

SITE HWD-5

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWD-5

SAMPLING ROUND: 5

(+)(HWD5-04 (DWGD) HWD5-03 HWD5-02	*** * * *
(+)(DWGD) (+)(DWGD)	***** VP
*	*
*	*
HWD-5	*
*	*
*	*
*****	*****
(+)HWD5-01 (UPGD)	-----
	| NO. 1 | E.G.L. | MILL

----- GARY WORKS * HWD-5 -----*

PARAMETER	UNIT	REGULATORY LEVEL	HWD5-01 UPGRADIENT 04/28/83	VP	HWD5-02 DOWNGRADIENT 04/28/83	HWD5-03 DOWNGRADIENT 04/28/83	HWD5-04 DOWNGRADIENT 04/28/83
ARSENIC	MG/L	0.05	0.003		0.002	0.008	LTO.001
BARIUM	MG/L	1.0	LTO.1		0.1	LTO.1	LTO.1
CADMUM	MG/L	0.01	LTO.005		LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01		LTO.01	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	1.		1.1	1.3	1.1
LEAD	MG/L	0.05	LTO.03		LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002		LTO.0002	0.0007	0.0002
NITRATE	MG/L	10.	1.4		LTO.1	1.2	LTO.2
SELENIUM	MG/L	0.01	LTO.005		LTO.005	LTO.005	0.01
SILVER	MG/L	0.05	LTO.01		LTO.01	LTO.01	LTO.01
PH	SU		7.5		11.2	11.9	11.6
PH	SU		7.5		11.2	11.9	11.6
PH	SU		7.5		11.2	11.9	11.6
PH	SU		7.5		11.2	11.9	11.6
SPECIFIC CONDUCTANCE	UMHOS/CM		800.		1710.	2540.	1350.
SPECIFIC CONDUCTANCE	UMHOS/CM		810.		1670.	2550.	1380.
SPECIFIC CONDUCTANCE	UMHOS/CM		800.		1690.	2590.	1400.
SPECIFIC CONDUCTANCE	UMHOS/CM		800.		1710.	2590.	1360.
TOTAL ORGANIC CARBON	MG/L	35.4		6.79		36.8	4.26
TOTAL ORGANIC CARBON	MG/L	35.8		6.78		36.5	4.27
TOTAL ORGANIC CARBON	MG/L	34.4		6.88		36.1	4.27
TOTAL ORGANIC CARBON	MG/L	34.2		7.07		35.6	4.24
TOTAL ORGANIC HALOGEN	UG/L	24.		20.		54.	LTO.10.
TOTAL ORGANIC HALOGEN	UG/L	16.		12.		42.	10.
TOTAL ORGANIC HALOGEN	UG/L	23.		15.		47.	LTO.10.
TOTAL ORGANIC HALOGEN	UG/L	16.		16.		50.	14.
GROUND WATER ELEVATION	FT WD		7.58		7.01	6.63	5.31
TEMPERATURE	C		10.5		10.	8.	10.
NAPHTHALENE	UG/L		NO DATA		NO DATA	NO DATA	NO DATA
CYANIDE, TOT	MG/L		NO DATA		NO DATA	NO DATA	NO DATA
NICKEL	MG/L		LTO.03		LTO.03	0.03	LTO.03

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 02 YEAR: 83

PARAMETER	UNIT	REGULATORY LEVEL	HWD5-01	UPGRADIENT	SAMPLING POINT, SAMPLE NO.		
			06/23/83	06/23/83	HWD5-02	HWD5-03	HWD5-04
NICKEL	MG/L		LTO.03	LTO.03	LTO.03	LTO.03	LTO.03
SOLIDS, DISS. - TDS	MG/L		716.	1240.	1410.	710.	
ARSENIC	MG/L	0.05	0.002	LTO.001	0.007	LTO.001	
BARIUM	MG/L	1.0	LTO.1	LTO.1	0.1	LTO.1	
CADMUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005	
CHLORIDE	MG/L		53.	57.	280.	76.	
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01	0.01	
IRON	MG/L		0.08	0.04	0.13	0.02	
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03	
MANGANESE	MG/L		0.17	0.01	0.01	LTO.01	
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	0.0004	LTO.0002	
PHENOLS	MG/L		LTO.01	0.033	0.21	0.025	
SELENIUM	MG/L	0.01	LTO.002	LTO.002	LTO.002	LTO.002	
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01	
SODIUM	MG/L		26.2	60.4	161.	54.6	
SULFATE	MG/L		160.	530.	50.	170.	
PH	SU		7.5	10.9	11.6	11.2	
PH	SU		7.6	11.	11.6	11.2	
PH	SU		7.5	11.	11.6	11.2	
PH	SU		7.5	11.	11.6	11.2	
SPECIFIC CONDUCTANCE	UMHOS/CM		810.	1530.	2410.	1460.	
SPECIFIC CONDUCTANCE	UMHOS/CM		820.	1570.	2360.	1380.	
SPECIFIC CONDUCTANCE	UMHOS/CM		830.	1570.	2410.	1450.	
SPECIFIC CONDUCTANCE	UMHOS/CM		780.	1510.	2300.	1380.	
TOTAL ORGANIC CARBON	MG/L		34.4	7.71	46.8	4.82	
TEMPERATURE	C		12.5	13.	11.	15.	
GROUND WATER ELEVATION	FT WD		6.82	6.38	6.	4.99	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-5
 SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

(+)HWD5-04 (DWGD)	HWD5-03 (+)(DWGD)	HWD5-02 (+)(DWGD)	*
*****	*****	*****	***
*	*	*	* *
*	*	*	*
*	*	*	*
*	HWD-5	*	NORTH
*****	*****	*****	*****
(+)HWD5-01 (UPGD)			

GARY WORKS * HWD-5

PARAMETER	UNIT	REGULATORY LEVEL	HWD5-01 10/27/83	HWD5-02 DOWNGRADIENT 10/27/83	HWD5-03 DOWNGRADIENT 10/27/83	HWD5-04 DOWNGRADIENT 10/27/83
			UPGRADIENT 831316	DOWNGRADIENT 831315	831317	831318
ARSENIC	MG/L	0.05	0.002	0.001	0.012	LTO.001
BARIUM	MG/L	1.0	LTO.1	LTO.1	LTO.1	LTO.1
CADMIUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	1.4	1.8	1.9	1.6
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.67	LTO.2	LTO.2	LTO.2
SELENIUM	MG/L	0.01	LTO.002	LTO.002	LTO.002	LTO.002
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
CHLORIDE	MG/L	59.	73.	300.	44.	
IRON	MG/L	0.04	0.05	0.16	0.03	
MANGANESE	MG/L	0.16	0.04	LTO.01	LTO.01	
PHENOLS	MG/L	LTO.01	0.046	1.2	0.055	
SODIUM	MG/L	25.4	55.2	150.	26.1	
SULFATE	MG/L	180.	600.	55.	160.	
PH	SU	7.9	11.2	11.8	11.8	
PH	SU	7.9	11.2	11.7	11.8	
PH	SU	7.9	11.2	11.7	11.8	
PH	SU	8.	11.2	11.7	11.8	
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	1600.	2220.	1380.	
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	1600.	2220.	1380.	
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	1600.	2220.	1380.	
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	1600.	2220.	1380.	
TOTAL ORGANIC CARBON	MG/L	39.	5.9	55.9	3.2	
TOTAL ORGANIC CARBON	MG/L	40.9	6.1	57.5	3.2	
TOTAL ORGANIC CARBON	MG/L	40.9	6.1	57.6	3.2	
TOTAL ORGANIC CARBON	MG/L	42.8	5.9	57.3	3.3	
TOTAL ORGANIC HALOGEN	UG/L	17.	28.	93.	14.	
TOTAL ORGANIC HALOGEN	UG/L	19.	22.	77.	18.	
TOTAL ORGANIC HALOGEN	UG/L	17.	26.	66.	14.	
TOTAL ORGANIC HALOGEN	UG/L	24.	22.	91.	21.	
TEMPERATURE	C	12.	12.	16.	16.	
GROUND WATER ELEVATION	FT WD	6.94	6.38	6.05	4.82	
NICKEL	MG/L	LT0.03	LT0.03	LT0.03	LT0.03	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 21 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-5
 SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

(+)HWD5-04 (DWGD)	HWD5-03 (+)(DWGD)	HWD5-02 (+)(DWGD)	*
*****	*****	*****	***
*	*	*	* *
*	*	UP	*
*	*	*	*
*	*	HWD-5	NORTH
*	*	*	*
*	*	*	*
*****	*****	*****	*****
(+)HWD5-01 (UPGD)			
			I-----
			| NO. 1
			| E.G.L.
			| MILL

GARY WORKS * HWD-5 -----*

PARAMETER	UNIT	PRIMARY STANDARD	HWD5-01	HWD5-02	HWD5-03	HWD5-04
			UPGRADIENT 05/02/84 840541	DOWNGRADIENT 05/02/84 840539	DOWNGRADIENT 05/02/84 840538	DOWNGRADIENT 05/02/84 840542
ARSENIC	MG/L	0.05	0.005	0.008	0.014	0.003
BARIUM	MG/L	1.0	0.1	LTO.1	0.1	LTO.1
CADMUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	0.97	1.1	1.1	0.86
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.82	LTO.1	0.1	LTO.1
SELENIUM	MG/L	0.01	LTO.004	LTO.004	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
PH	SU		7.6	10.8	11.3	11.2
PH	SU		7.7	10.7	11.3	11.2
PH	SU		7.7	10.8	11.3	11.2
PH	SU		7.7	10.7	11.3	11.1
SPECIFIC CONDUCTANCE	UMHOS/CM		810.	1460.	2180.	1330.
SPECIFIC CONDUCTANCE	UMHOS/CM		810.	1490.	2160.	1340.
SPECIFIC CONDUCTANCE	UMHOS/CM		800.	1480.	2130.	1320.
SPECIFIC CONDUCTANCE	UMHOS/CM		810.	1490.	2160.	1340.
TOTAL ORGANIC CARBON	MG/L		70.4	23.4	60.5	15.2
TOTAL ORGANIC CARBON	MG/L		75.	23.3	60.	15.7
TOTAL ORGANIC CARBON	MG/L		73.	22.7	59.4	15.3
TOTAL ORGANIC CARBON	MG/L		75.1	23.	61.2	16.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	36.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	45.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	16.	46.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	54.	LT10.
NICKEL	MG/L		LT0.03	LT0.03	LT0.03	LT0.03
TEMPERATURE	C		14.5	12.	13.	10.
GROUND WATER ELEVATION	FT MSL		585.42	583.99	583.66	582.81

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 02 AUG 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT

PARAMETER	UNIT	DRINKING WATER		DP 840719	06/27/84 840718	06/27/84 840717	06/27/84 840720
		STANDARD	840719				
ARSENIC	MG/L	0.05	LTO.001		0.001	LTO.002*	LTO.001
BARIUM	MG/L	1.0	LTO.1		LTO.1	LTO.1	LTO.1
CADMIUM	MG/L	0.01	LTO.005		LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01		LTO.01	LTO.01	LTO.01
LEAD	MG/L	0.05	LTO.03		LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002		0.0002	LTO.0002	LTO.0002
SELENIUM	MG/L	0.01	LTO.004		LTO.004	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01		LTO.01	LTO.01	LTO.01
CHLORIDE	MG/L	72.		63.		250.	100.
IRON	MG/L		LTO.01		LTO.01	0.03	LTO.01
MANGANESE	MG/L		0.17		LTO.01	LTO.01	LTO.01
PHENOLS	MG/L		LTO.02		0.039	1.4	0.036
SODIUM	MG/L		32.		46.	145.	54.
SULFATE	MG/L		150.		370.	77.	200.
PH	SU		8.1		11.3	12.	11.8
PH	SU		8.2		11.3	12.	11.8
PH	SU		8.2		11.3	12.	11.8
PH	SU		8.3		11.3	11.9	11.8
SPECIFIC CONDUCTANCE	UMHOS/CM		760.		1290.	2030.	1440.
SPECIFIC CONDUCTANCE	UMHOS/CM		650.		1290.	2080.	1460.
SPECIFIC CONDUCTANCE	UMHOS/CM		710.		1290.	2080.	1460.
SPECIFIC CONDUCTANCE	UMHOS/CM		660.		1290.	2080.	1440.
TOTAL ORGANIC CARBON	MG/L		27.7		7.4	40.4	5.6
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA		NO DATA	NO DATA	NO DATA
TOTAL ORGANIC HALOGEN	UG/L		LT10.		LT10.	34.	LT10.
NICKEL	MG/L		LTO.03		LTO.03	LTO.03	LTO.03
SOLIDS, DISS. - TDS	MG/L		663.		990.	1080.	710.
TEMPERATURE	C		12.		13.	11.5	12.
GROUND WATER ELEVATION	FT MSL		585.39		583.99	583.6	582.9

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 08 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWD-5
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD5-01 UPGRADIENT
ARSENIC	MG/L	0.05	0.002
BARIUM	MG/L	1.0	LT0.1
CADMUM	MG/L	0.01	LT0.005
CHROMIUM	MC/L	0.05	0.02
FLUORIDE	MG/L	1.4-2.4	1.1
LEAD	MG/L	0.05	LT0.03
MERCURY	MG/L	0.002	LT0.0002
NITRATE	MG/L	10.	NO DATA
SELENIUM	MG/L	0.01	LT0.004
SILVER	MG/L	0.05	LT0.01
CHLORIDE	MG/L	61.	70.
IRON	MG/L	0.41	LT0.01
MANGANESE	MG/L	0.17	LT0.01
PHENOLS	MG/L	LT0.04*	0.087
SODIUM	MG/L	31.	54.
SULFATE	MG/L	270.	840.
PH	SU	7.8	11.3
PH	SU	7.9	11.4
PH	SU	7.9	11.4
PH	SU	7.9	11.4
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	1500.
SPECIFIC CONDUCTANCE	UMHOS/CM	920.	1510.
SPECIFIC CONDUCTANCE	UMHOS/CM	920.	1510.
SPECIFIC CONDUCTANCE	UMHOS/CM	920.	1500.
TOTAL ORGANIC CARBON	MG/L	31.6	6.6
TOTAL ORGANIC CARBON	MG/L	28.3	6.7
TOTAL ORGANIC CARBON	MG/L	31.3	6.8
TOTAL ORGANIC CARBON	MG/L	32.	6.9
TOTAL ORGANIC HALOGEN	UG/L	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L	LT10.	LT10.
ACROLEIN	UG/L	LT100.	LT100.
ACRYLONITRILE	UG/L	LT100.	LT100.
BENZENE	UG/L	LT5.	LT5.
BROMOFORM	UG/L	LT10.	LT10.
CARBON TETRACHLORIDE	UG/L	LT5.	LT5.

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

(+)HWD5-04 (DWGD)	HWD5-03 (+)(DWGD)	HWD5-02 (+)(DWGD)	*
*****	*****	*****	***
#	#	UP	* *
#	#	#	*
#	HWD-5	#	NORTH
#	#	#	*
*****	*****	*****	*
(+)HWD5-01 (UPGD)			
			I NO. 1
			E.G.L.
			MILL

SAMPLING POINT, SAMPLE NO.				
UP	HWD5-02 DOWNGRADIENT	HWD5-03 DOWNGRADIENT	HWD5-04 DOWNGRADIENT	HWD5-04 DOWNGRADIENT
	10/25/84 841015	10/25/84 841014	10/25/84 841016	10/25/84
	NO DATA	NO DATA	NO DATA	NO DATA
	LT0.004	LT0.004	LT0.004	LT0.004
	LT0.01	LT0.01	LT0.01	LT0.01
	270.	270.	170.	170.
	0.01	0.01	0.01	0.01
	1.4	1.4	LT0.04*	LT0.04*
	140.	140.	110.	110.
	230.	230.	280.	280.
	11.8	11.8	11.7	11.7
	11.4	11.4	11.8	11.7
	11.4	11.4	11.8	11.7
	11.4	11.8	11.8	11.7
	1500.	2050.	1760.	1760.
	1510.	2030.	1760.	1760.
	1510.	2050.	1760.	1760.
	1500.	1980.	1750.	1750.
	6.6	53.	7.5	7.5
	6.7	53.1	7.4	7.4
	6.8	53.1	7.5	7.5
	6.9	52.8	7.5	7.5
	LT10.	34.	LT10.	LT10.
	LT10.	44.	20.	20.
	LT10.	47.	LT10.	LT10.
	LT10.	28.	11.	11.
	LT100.	LT100.	LT100.	LT100.
	LT100.	LT100.	LT100.	LT100.
	LT5.	LT5.	LT5.	LT5.
	LT10.	LT10.	LT10.	LT10.
	LT5.	LT5.	LT5.	LT5.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 08 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD5-01	UPGRADIENT	VP	HWD5-02	UPGRADIENT	HWD5-03	DOWNGRA
			10/25/84	841017	10/25/84	841015	10/25/84	841014	10/25/8410
CHLOROBENZENE	UG/L		LT5.		LT5.		LT5.		LT5.
CHLORODIBROMOMETHANE	UG/L		LT5.		LT5.		LT5.		LT5.
CHLOROETHANE	UG/L		LT10.		LT10.		LT10.		LT10.
2-CHLOROETHYL VINYL ETHER	UG/L		LT10.		LT10.		LT10.		LT10.
CHLOROFORM	UG/L		LT5.		LT5.		LT5.		LT5.
DICHLOROBROMOMETHANE	UG/L		LT5.		LT5.		LT5.		LT5.
1,1-DICHLOROETHANE	UG/L		LT5.		LT5.		LT5.		LT5.
1,2-DICHLOROETHANE	UG/L		LT1.		LT1.		LT1.		LT1.
1,1-DICHLOROETHYLENE	UG/L		LT5.		LT5.		LT5.		LT5.
1,2-DICHLOROPROPANE	UG/L		LT10.		LT10.		LT10.		LT10.
1,3-DICHLOROPROPYLENE	UG/L		LT5.		LT5.		LT5.		LT5.
ETHYL BENZENE	UG/L		LT5.		LT5.		LT5.		LT5.
METHYL BROMIDE	UG/L		LT10.		LT10.		LT10.		LT10.
METHYL CHLORIDE	UG/L		LT10.		LT10.		LT10.		LT10.
METHYLENE CHLORIDE	UG/L		LT5.		LT5.		LT5.		LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L		LT10.		LT10.		LT10.		LT10.
TETRACHLOROETHYLENE (PERCHLORO)	UG/L		LT5.		LT5.		LT5.		LT5.
TOLUENE	UG/L		LT5.		LT5.		9.		LT5.
1,2-TRANS-DICHLOROETHYLENE	UG/L		LT5.		LT5.		LT5.		LT5.
1,1,1-TRICHLOROETHANE	UG/L		LT5.		LT5.		LT5.		LT5.
1,1,2-TRICHLOROETHANE	UG/L		LT5.		LT5.		LT5.		LT5.
TRICHLOROETHYLENE	UG/L		LT5.		LT5.		LT5.		LT5.
VINYL CHLORIDE	UG/L		LT10.		LT10.		LT10.		LT10.
NICKEL	MG/L		LT0.03		LT0.03		LT0.03		LT0.03
NITROGEN, AMMONIA	MG/L		0.23		4.3		10.		1.9
TEMPERATURE	C		13.		13.		14.		18.
GROUND WATER ELEVATION	FT MSL		584.49		583.29		583.16		582.22

SITE HWT-2

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 5

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-01	HWT2-02	HWT2-03	HWT2-04	HWT2-05	HWT2-06,
			UPGRADIENT 04/27/83 830139	DOWNGRADIENT 04/27/83 830139	DOWNGRADIENT 04/27/83 830139	DOWNGRADIENT 04/27/83 830139	DOWNGRADIENT 04/27/83 830139	07
ARSENIC	MG/L	0.05	0.029	LTO.002	LTO.005	LTO.005	LTO.005	0.006
BARIUM	MG/L	1.0	0.1	LTO.1	2.1	3.7	LTO.1	
CADMUM	MG/L	0.01	LTO.005	0.009	0.011	0.009		0.009
CHROMIUM	MG/L	0.05	LTO.01	0.02	0.02	0.01		0.01
FLUORIDE	MG/L	1.4-2.4	1.4	0.68	0.81	0.74		2.3
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	0.0002	0.0002		0.0044
NITRATE	MG/L	10.	0.21	2.	1.5	LTO.1		2.5
SELENIUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005		0.008
SILVER	MG/L	0.05	LTO.01	0.01	0.02	0.02		0.01
PH	SU		7.3	11.	11.2	11.4		6.7
PH	SU		7.3	11.	11.2	11.4		6.6
PH	SU		7.3	11.	11.2	11.4		6.6
PH	SU		7.3	11.	11.2	11.4		6.6
SPECIFIC CONDUCTANCE	UMHOS/CM		890.	8500.	11800.	9600.		6100.
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	8300.	11600.	9600.		6000.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	8500.	11500.	10000.		6100.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	8600.	11500.	9800.		6000.
TOTAL ORGANIC CARBON	MG/L	62.1	4.71	9.66	9.52			15.3
TOTAL ORGANIC CARBON	MG/L	62.4	4.62	9.58	10.5			15.6
TOTAL ORGANIC CARBON	MG/L	59.5	4.47	9.76	8.9			15.7
TOTAL ORGANIC CARBON	MG/L	62.7	4.75	10.1	11.1			15.8
TOTAL ORGANIC HALOGEN	UG/L	21.	198.	203.	339.			122.
TOTAL ORGANIC HALOGEN	UG/L	19.	154.	182.	376.			112.
TOTAL ORGANIC HALOGEN	UG/L	18.	158.	175.	314.			97.
TOTAL ORGANIC HALOGEN	UG/L	16.	181.	183.	380.			108.
GROUND WATER ELEVATION	FT WD	7.87	6.58	6.76	8.67			4.97
TEMPERATURE	C	12.	12.	14.5	15.			14.5
NAPHTHALENE	UG/L	NO DATA	NO DATA	NO DATA	NO DATA			NO DATA
CYANIDE, TOT	MG/L	NO DATA	NO DATA	NO DATA	NO DATA			NO DATA
NICKEL	MG/L	LTO.03	0.09	0.11	0.1			0.09

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 5

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-06	HWT2-07
			04/27/83	DOWNGRADIENT 04/26/83
ARSENIC	MG/L	0.05	LT0.01	LT0.005
BARIUM	MG/L	1.0	LT0.1	LT0.1
CADMIUM	MG/L	0.01	0.012	0.009
CHROMIUM	MG/L	0.05	0.02	LT0.01
FLUORIDE	MG/L	1.4-2.4	2.4	3.2
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.44	6.
SELENIUM	MG/L	0.01	0.005	0.005
SILVER	MG/L	0.05	0.02	0.01.
PH	SU		6.8	9.2
PH	SU		6.7	9.2
PH	SU		6.7	9.2
PH	SU		6.7	9.2
SPECIFIC CONDUCTANCE	UMHOS/CM		8200.	4870.
SPECIFIC CONDUCTANCE	UMHOS/CM		8100.	4910.
SPECIFIC CONDUCTANCE	UMHOS/CM		8200.	4910.
SPECIFIC CONDUCTANCE	UMHOS/CM		8300.	4760.
TOTAL ORGANIC CARBON	MG/L		15.6	7.33
TOTAL ORGANIC CARBON	MG/L		15.3	7.37
TOTAL ORGANIC CARBON	MG/L		16.	7.11
TOTAL ORGANIC CARBON	MG/L		16.	7.23
TOTAL ORGANIC HALOGEN	UG/L		52.	74.
TOTAL ORGANIC HALOGEN	UG/L		82.	78.
TOTAL ORGANIC HALOGEN	UG/L		57.	70.
TOTAL ORGANIC HALOGEN	UG/L		78.	74.
GROUND WATER ELEVATION	FT WD		4.11	8.43
TEMPERATURE	C		14.5	13.
NAPHTHALENE	UG/L		NO DATA	NO DATA
CYANIDE, TOT	MG/L		NO DATA	NO DATA
NICKEL	MG/L		0.11	0.1

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 02 YEAR: 83.

SAMPLING POINT, SAMPLE NO.		GARY WORKS * HWT-2 -----	
2-02 RADIENT 02/83 0288	HWT2-03 DOWNGRADIENT 06/22/83 830292	HWT2-04 DOWNGRADIENT 06/22/83 830291	HWT2-05 DOWNGRADIENT 06/22/83 830287
	0.1	0.1	0.06
	13000.	9730.	5550.
LTO.005		0.002	0.002
	2.1	3.7	LTO.1
	0.02	0.011	0.011
	2600.	2700.	1200.
	0.02	0.02	0.01
	0.16	0.09	0.44
LTO.03	LTO.03	LTO.03	LTO.03
	0.03	0.03	0.38
LTO.0002	LTO.0002	LTO.0002	LTO.0002
	0.68	0.33	LTO.01
	0.024	LTO.002	LTO.002
	0.01	0.01	0.01
	60.7	61.3	161.
	80.	70.	880.
	11.5	11.7	8.1
	11.5	11.7	8.1
	11.5	11.7	8.1
	11.5	11.7	8.
	11600.	9000.	4650.
	11600.	9000.	4950.
	11400.	9900.	5040.
	11600.	9800.	4930.
	9.53	11.9	8.65
	16.5	17.	16.
	7.07	8.45	4.84

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-2

SAMPLING ROUND: 02 YEAR: 83

HWT2-02 (DWGD) (+)	HWT2-03 (DWGD) (+)	HWT2-04 (DWGD) (+)	HWT2-05 (DWGD) (+)	HWT2-06, (DWGD) (+)	07 (+)
*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*****	*****	*****	*****	*****	*****
(+)HWT2-01 (UPGD)					
----- GARY WORKS * HWT-2 -----					
----- HWT-14 -----					
----- NORTH -----					

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-06	HWT2-07
			DOWNGRADIENT 06/22/83 830285	DOWNGRADIENT 06/22/83 830284
NICKEL	MG/L		0.1	0.07
SOLIDS, DISS. - TDS	MG/L		9310.	6680.
ARSENIC	MG/L	0.05	LT0.001	LT0.001
BARIUM	MG/L	1.0	LT0.1	LT0.1
CADMIUM	MG/L	0.01	0.015	0.014
CHLORIDE	MG/L		2100.	1600.
CHROMIUM	MG/L	0.05	0.01	LT0.01
IRON	MG/L		6.4	0.02
LEAD	MG/L	0.05	LT0.03	LT0.03
MANGANESE	MG/L		0.77	0.45
MERCURY	MG/L	0.002	LT0.0002	0.0005
PHENOLS	MG/L		0.016	LT0.01
SELENIUM	MG/L	0.01	0.002	LT0.002
SILVER	MG/L	0.05	0.01	0.01
SODIUM	MG/L		72.9	46.8
SULFATE	MG/L		860.	860.
PH	SU		6.6	7.9
PH	SU		6.7	8.1
PH	SU		6.7	8.
PH	SU		6.7	8.1
SPECIFIC CONDUCTANCE	UMHOS/CM		6200.	5140.
SPECIFIC CONDUCTANCE	UMHOS/CM		6100.	5000.
SPECIFIC CONDUCTANCE	UMHOS/CM		6100.	4890.
SPECIFIC CONDUCTANCE	UMHOS/CM		5900.	5100.
TOTAL ORGANIC CARBON	MG/L		9.2	7.96
TEMPERATURE	C		16.	14.
GROUND WATER ELEVATION	FT WD		4.07	7.76

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-2

SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

HWT2-02 (DWGD) (+) *****	HWT2-03 (DWGD) (+) *****	HWT2-04 (DWGD) (+) *****	HWT2-05 (DWGD) (+) *****	HWT2-06, (DWGD) (+) *****	07 (+) *****
*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*****	*****	*****	*****	*****	*****
(+)HWT2-01 (UPGD)				NORTH HWT-14	

----- GARY WORKS * HWT-2 -----

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-01	HWT2-02	HWT2-03	HWT2-04	HWT2-05
			10/26/83 831311	10/26/83 831310	10/26/83 831308	10/26/83 831309	10/26/83 831312
ARSENIC	MG/L	0.05	0.028	LT0.001	0.003	0.001	LT0.002
BARIUM	MG/L	1.0	LT0.1	LT0.1	1.5	3.4	LT0.1
CADMUM	MG/L	0.01	LT0.005	0.012	0.022	0.021	0.022
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	1.7	0.98	1.1	1.	3.4
LEAD	MG/L	0.05	LT0.03	LT0.03	0.1	0.08	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.2	LT0.1	1.2	LT2.	2.4
SELENIUM	MG/L	0.01	LT0.002	0.004	LT0.02	0.007	LT0.002
SILVER	MG/L	0.05	LT0.01	0.01	0.02	0.02	0.02
CHLORIDE	MG/L	37.		2400.	3600.	2400.	3400.
IRON	MG/L	1.8		0.54	0.87	0.15	96.
MANGANESE	MG/L	0.45	LT0.01	0.11	0.61	0.38	0.015
PHENOLS	MG/L						
SODIUM	MG/L	29.3		34.3	52.9	51.6	105.
SULFATE	MG/L	140.		240.	64.	66.	1200.
PH	SU	7.3		11.6	11.7	12.	6.5
PH	SU	7.4		11.6	11.7	12.	6.5
PH	SU	7.4		11.6	11.7	12.	6.5
PH	SU	7.3		11.6	11.8	12.	6.5
SPECIFIC CONDUCTANCE	UMHOS/CM	850.		8600.	11500.	10100.	9000.
SPECIFIC CONDUCTANCE	UMHOS/CM	870.		8400.	11500.	10000.	9100.
SPECIFIC CONDUCTANCE	UMHOS/CM	860.		8400.	11500.	10000.	9000.
SPECIFIC CONDUCTANCE	UMHOS/CM	850.		8400.	11500.	10100.	9000.
TOTAL ORGANIC CARBON	MG/L	70.		6.3	9.5	8.9	35.7
TOTAL ORGANIC CARBON	MG/L	70.9		6.5	10.1	9.1	33.7
TOTAL ORGANIC CARBON	MG/L	69.6		6.3	9.6	9.3	35.4
TOTAL ORGANIC CARBON	MG/L	69.8		6.4	9.7	8.9	34.8
TOTAL ORGANIC HALOGEN	UG/L	17.		130.	280.	170.	92.
TOTAL ORGANIC HALOGEN	UG/L	17.		110.	205.	190.	92.
TOTAL ORGANIC HALOGEN	UG/L	29.		120.	220.	190.	116.
TOTAL ORGANIC HALOGEN	UG/L	24.		120.	240.	160.	103.
TEMPERATURE	C	13.		15.	14.	14.	14.
GROUND WATER ELEVATION	FT WD	7.22		5.69	5.9	7.4	4.69
NICKEL	MG/L		LT0.03	0.03	0.07	0.06	0.07

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

HWT2-02	HWT2-03	HWT2-04	HWT2-05	HWT2-06	07
(DWGD)	(DWGD)	(DWGD)	(DWGD)	(DWGD)	(DWGD)
(+)	(+)	(+)	(+)	(+)	(+)

*	*	*	*	*	*
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*	*	*	*	*	*

(+)HWT2-01 (UPGD)			-----|-----|NORTH|		
-----|-----|HWT-14|			-----|-----|		

* ----- GARY WORKS * HWT-2 -----*

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-06	HWT2-07
			DOWNGRADIENT 10/25/83 831307	DOWNGRADIENT 10/26/83 831313
ARSENIC	MG/L	0.05	0.004	LT0.001
BARIUM	MG/L	1.0	LT0.1	LT0.1
CADMIUM	MG/L	0.01	0.02	0.01
CHROMIUM	MG/L	0.05	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	3.5	4.6
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.7	7.8
SELENIUM	MG/L	0.01	LT0.002	LT0.002
SILVER	MG/L	0.05	0.02	0.02
CHLORIDE	MG/L		2400.	1600.
IRON	MG/L		8.55	LT0.01
MANGANESE	MG/L		0.73	0.4
PHENOLS	MG/L		LT0.01	0.033
SODIUM	MG/L		61.9	45.3
SULFATE	MG/L		1100.	960.
PH	SU		6.9	9.1
PH	SU		7.	9.1
PH	SU		6.9	9.1
PH	SU		6.9	9.1
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5920.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5950.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5960.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5950.
TOTAL ORGANIC CARBON	MG/L		9.8	6.5
TOTAL ORGANIC CARBON	MG/L		9.7	7.
TOTAL ORGANIC CARBON	MG/L		10.1	6.9
TOTAL ORGANIC CARBON	MG/L		9.3	6.9
TOTAL ORGANIC HALOGEN	UG/L		208.	50.
TOTAL ORGANIC HALOGEN	UG/L		300.	61.
TOTAL ORGANIC HALOGEN	UG/L		243.	56.
TOTAL ORGANIC HALOGEN	UG/L		200.	62.
TEMPERATURE	C		14.	14.
GROUND WATER ELEVATION	FT WD		3.99	7.18
NICKEL	MG/L		0.07	0.06

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 21 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-2

SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER

ARSENIC

BARIUM

CADMIUM

CHROMIUM

FLUORIDE

LEAD

MERCURY

NITRATE

SELENIUM

SILVER

PH

PH

PH

PH

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

TOTAL ORGANIC CARBON

TOTAL ORGANIC CARBON

TOTAL ORGANIC CARBON

TOTAL ORGANIC HALOGEN

TOTAL ORGANIC HALOGEN

TOTAL ORGANIC HALOGEN

TOTAL ORGANIC HALOGEN

NICKEL

TEMPERATURE

GROUND WATER ELEVATION

PRIMARY
DRINKING WATER
STANDARDUNIT
MG/L
0.05UPGRADIENT
05/02/84
840537

HWT2-01

LT0.1
0.038

LT0.0002

1.6

LT0.004

LT0.01

7.2

7.2

7.1

7.2

UMHOS/CM
800.UMHOS/CM
790.UMHOS/CM
790.MG/L
43.9MG/L
42.9MG/L
42.7UG/L
43.5UG/L
42.UG/L
45.UG/L
34.UG/L
48.MG/L
LT0.03C
11.FT MSL
586.55

HWT2-02 (DWGD) (+)	HWT2-03 (DWGD) (+)	HWT2-04 (DWGD) (+)	HWT2-05 (DWGD) (+)	HWT2-06, (DWGD) (+)	O7 (DWGD) (+)
*	*	*	*	*	*
*****	*****	*****	*****	*****	*****
*	*	*	*	*	*
*	HWT-2	*	*	HWT-2	*
*	*	*	*	*	*
*****	*****	*****	*****	*****	*****
*	*	*	*	*	*
(+)HWT2-01 (UPGD)					NORTH
				HWT-14	

GARY WORKS * HWT-2 -----*					
SAMPLING POINT, SAMPLE NO.	HWT2-02	HWT2-03	HWT2-04	HWT2-05	HWT2-05
	05/01/84	05/01/84	05/01/84	05/01/84	05/01/84
	840534	840534	840535	840536	840533
	LTO.1	3.6	2.8	LTO.1	LTO.1
	0.014	0.023	0.019	0.015	0.011
	LTO.01	LTO.01	LTO.01	LTO.01	LTO.01
	0.75	0.41	0.68	3.1	
	LTO.03	LTO.03	LTO.03	LTO.03	LTO.03
	0.0002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
	LTO.1	LTO.2*	LTO.2*	LTO.2*	LT2.*
	0.06	0.12	0.037	0.026	
	0.01	0.01	0.01	0.01	0.01
	11.2	11.5	11.3	6.9	
	LTO.03	LTO.03	LTO.03	LTO.03	LTO.03
	11.1	11.4	11.4	6.9	
	11.2	11.5	11.4	6.9	
	11.2	11.5	11.4	7.	
	LTO.004	11400.	8900.	6800.	
	8500.	11400.	8800.	6300.	
	8500.	11400.	8800.	6700.	
	8500.	11400.	8800.	6800.	
	15.9	16.	17.2	17.8	
	15.9	16.	17.1	17.2	
	16.1	16.6	16.6	16.	
	61.	140.	90.	45.	
	61.	130.	61.	44.	
	78.	180.	75.	70.	
	67.	130.	58.	52.	
	0.08	0.11	0.08	0.11	
	584.38	584.81	587.48	585.34	

*ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE FOR NITRATE ANALYSIS.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 21 NOV 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-2

SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT2-06 DOWNGRADIENT 05/01/84 840532	SAMPLE HWT2 DOWNGR 05/0 840
ARSENIC	MG/L	0.05	0.02	0.01
BARIUM	MG/L	1.0	LTO.1	0.1
CADMIUM	MG/L	0.01	0.008	0.008
CHROMIUM	MG/L	0.05	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	2.9	4.
LEAD	MG/L	0.05	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	0.0003
NITRATE	MG/L	10.	0.46	6.3
SELENIUM	MG/L	0.01	0.062	0.02
SILVER	MG/L	0.05	0.02	0.02
PH	SU		6.9	8.8
PH	SU		6.9	9.
PH	SU		7.	9.
PH	SU		7.	8.9
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5670.
SPECIFIC CONDUCTANCE	UMHOS/CM		7100.	5640.
SPECIFIC CONDUCTANCE	UMHOS/CM		7300.	5650.
SPECIFIC CONDUCTANCE	UMHOS/CM		7300.	5600.
TOTAL ORGANIC CARBON	MG/L		13.6	11.5
TOTAL ORGANIC CARBON	MG/L		14.8	12.1
TOTAL ORGANIC CARBON	MG/L		13.9	11.5
TOTAL ORGANIC CARBON	MG/L		15.2	11.7
TOTAL ORGANIC HALOGEN	UG/L		210.	154.
TOTAL ORGANIC HALOGEN	UG/L		160.	120.
TOTAL ORGANIC HALOGEN	UG/L		140.	140.
TOTAL ORGANIC HALOGEN	UG/L		170.	151.
NICKEL	MG/L		0.09	0.11
TEMPERATURE	C		14.5	13.
GROUND WATER ELEVATION	FT MSL		582.96	586.22

SAMPLING POINT. SAMPLE NO. ----- GAR

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 02 AUG 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT

*----- GA
SAMPLING POINT, SAMPLE NO

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT2-01	HWT2-02	HWT2-03	HWT2-04	HWT2-05
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
ARSENIC	MG/L	0.05	0.024	LT0.001	0.008	0.005	0.008
BARIUM	MG/L	1.0	LT0.1	0.2	3.2	3.5	LT0.1
CADMIUM	MG/L	0.01	LT0.005	0.013	0.017	0.017	0.017
CHROMIUM	MG/L	0.05	LT0.01	0.01	0.01	0.01	0.02
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
SELENIUM	MG/L	0.01	LT0.004	0.011	LT0.02*	0.009	LT0.02*
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	0.01	LT0.01
CHLORIDE	MG/L		150.	2200.	3600.	2800.	2200.
IRON	MG/L		0.33	0.06	0.18	0.05	59.5
MANGANESE	MG/L		0.4	LT0.01	LT0.01	LT0.01	1.99
PHENOLS	MG/L		LT0.02	0.1	0.51	0.17	LT0.02
SODIUM	MG/L		39.	43.	63.	62.	144.
SULFATE	MG/L		100.	140.	41.	170.	780.
PH	SU		7.7	11.6	11.8	12.	6.5
PH	SU		7.7	11.6	11.8	12.	6.5
PH	SU		7.7	11.6	11.8	12.	6.6
PH	SU		7.7	11.6	11.8	12.	6.6
SPECIFIC CONDUCTANCE	UMHOS/CM		770.	6700.	11100.	9400.	6800.
SPECIFIC CONDUCTANCE	UMHOS/CM		770.	6700.	11300.	9400.	7000.
SPECIFIC CONDUCTANCE	UMHOS/CM		770.	6800.	11500.	9400.	6700.
SPECIFIC CONDUCTANCE	UMHOS/CM		770.	6800.	11300.	9200.	6800.
TOTAL ORGANIC CARBON	MG/L		40.	12.5	9.2	12.5	18.6
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC HALOGEN	UG/L		29.	40.	32.	LT20.	28.
NICKEL	MG/L		LT0.03	0.09	0.09	0.1	0.1
SOLIDS, DISS. - TDS	MG/L		582.	5550.	7130.	5440.	6300.
TEMPERATURE	C		13.	15.	17.	17.	16.5
GROUND WATER ELEVATION	FT MSL		585.72	584.13	584.53	586.51	582.89

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

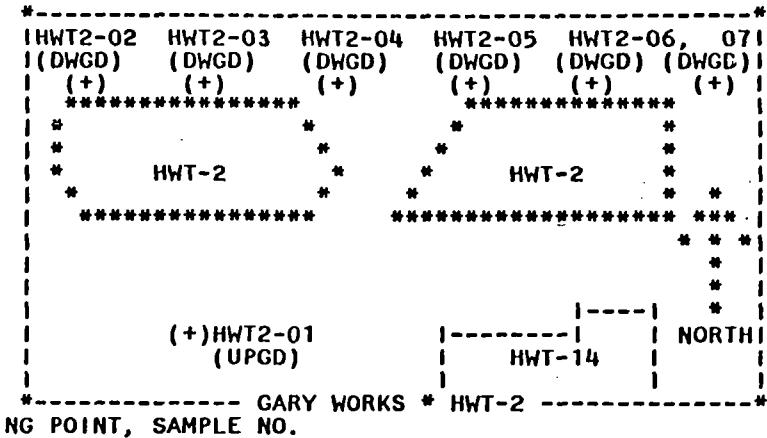
REPORT DATE: 02 AUG 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT

PARAMETER	UNIT	PRIMARY STANDARD	HWT2-06	DOWNGRADIENT
			06/26/84	06/26/84
ARSENIC	MG/L	0.05	0.007	0.002
BARIUM	MG/L	1.0	LTO.1	LTO.1
CADMIUM	MG/L	0.01	0.022	0.013
CHROMIUM	MG/L	0.05	0.02	0.02
LEAD	MG/L	0.05	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002
SELENIUM	MG/L	0.01	0.028	LTO.02*
SILVER	MG/L	0.05	LTO.01	LTO.01
CHLORIDE	MG/L		2300.	1400.
IRON	MG/L		20.5	0.01
MANGANESE	MG/L		1.02	0.3
PHENOLS	MG/L		LTO.02	LTO.02
SODIUM	MG/L		74.	33.
SULFATE	MG/L		770.	860.
PH	SU		6.4	8.9
PH	SU		6.5	8.9
PH	SU		6.5	8.8
SPECIFIC CONDUCTANCE	UMHOS/CM		7100.	4970.
SPECIFIC CONDUCTANCE	UMHOS/CM		7100.	4900.
SPECIFIC CONDUCTANCE	UMHOS/CM		7000.	5010.
SPECIFIC CONDUCTANCE	UMHOS/CM		7000.	4870.
TOTAL ORGANIC CARBON	MG/L		10.9	8.3
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA
TOTAL ORGANIC HALOGEN	UG/L		110.	57.
NICKEL	MG/L		0.11	0.08
SOLIDS, DISS. - TDS	MG/L		6430.	4830.
TEMPERATURE	C		15.5	13.5
GROUND WATER ELEVATION	FT MSL		582.15	585.77

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE



SAMPLING POINT, SAMPLE NO.

(+)HWT2-01
(UPGD)

HWT-14

NORTH

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-2
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT-01	HWT2-02 10/24/84 840997	HWT2-03	HWT2-04 10/24/84 840996	HWT2-05 10/24/84 840998	HWT2-06
			UPGRADIENT		DOWNGRADIENT			10/23/84 840994
ARSENIC	MG/L	0.05	0.029	0.006	0.012	0.008	LTO.01	
BARIUM	MG/L	1.0	LTO.1	LTO.1	3.5	4.	LTO.1	
CADMUM	MG/L	0.01	LTO.005	0.016	0.029	0.029	0.03	
CHROMIUM	MG/L	0.05	LTO.01	0.01	0.02	0.02	0.02	
FLUORIDE	MG/L	1.4-2.4	1.4	0.74	0.6	0.74	2.9	
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03	LTO.03	
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002	LTO.0002	0.0003
NITRATE	MG/L	10.	1.6	0.86	1.8	4.	1.	
SELENIUM	MG/L	0.01	LTO.004	0.008	LTO.04*	LTO.08*	0.034	
SILVER	MG/L	0.05	LTO.01	LTO.01	0.01	0.01	0.01	
CHLORIDE	MG/L	44.	1600.	3300.	2700.	2400.		
IRON	MG/L	2.1	0.34	0.2	0.08	42.		
MANGANESE	MG/L	0.46	0.01	0.03	0.01	2.2		
PHENOLS	MG/L	LTO.04*	0.12	0.41	0.22	LTO.04*		
SODIUM	MG/L	43.	40.	62.	65.	130.		
SULFATE	MG/L	130.	200.	33.	86.	1200.		
PH	SU	7.3	11.4	11.7	11.5	6.7		
PH	SU	7.4	11.5	11.6	11.7	6.5		
PH	SU	7.3	11.4	11.6	11.4	6.6		
PH	SU	7.4	11.4	11.7	11.4	6.6		
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	6060.	11300.	10010.	8390.		
SPECIFIC CONDUCTANCE	UMHOS/CM	900.	6130.	11100.	10010.	8390.		
SPECIFIC CONDUCTANCE	UMHOS/CM	910.	6100.	11300.	10010.	8260.		
SPECIFIC CONDUCTANCE	UMHOS/CM	890.	6100.	11300.	10010.	8390.		
TOTAL ORGANIC CARBON	MG/L	68.	11.	7.8	9.	18.5		
TOTAL ORGANIC CARBON	MG/L	67.4	10.5	6.7	8.9	16.8		
TOTAL ORGANIC CARBON	MG/L	61.2	10.7	7.4	8.7	18.3		
TOTAL ORGANIC CARBON	MG/L	69.	10.6	6.8	8.7	18.4		
TOTAL ORGANIC HALOGEN	UG/L	LT10.	21.	19.	61.	LT10.		
TOTAL ORGANIC HALOGEN	UG/L	LT10.	34.	57.	LT50.*	LT10.		
TOTAL ORGANIC HALOGEN	UG/L	LT10.	17.	12.	LT50.*	LT10.		
TOTAL ORGANIC HALOGEN	UG/L	LT10.	42.	31.	59.	LT10.		
ACROLEIN	UG/L	LT100.	LT100.	LT100.	LT100.	LT100.		
ACRYLONITRILE	UG/L	LT100.	LT100.	LT100.	LT100.	LT100.		
BENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.		
BROMOFORM	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.		
CARBON TETRACHLORIDE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.		

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	DRINKING WATER STANDARD	10/24/84	10/24/84	10/24/84	10/24/84	10/23/84
			840997	840996	840998	840999	840994
CHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CHLORODIBROMOMETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CHLOROETHANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
2-CHLOROETHYL VINYL ETHER	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
CHLOROFORM	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
DICHLOROBROMOMETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1-DICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROETHANE	UG/L		LT1.	LT1.	LT1.	LT1.	LT1.
1,1-DICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROPROPANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
1,3-DICHLOROPROPYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
ETHYLBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
METHYL BROMIDE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
METHYL CHLORIDE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
METHYLENE CHLORIDE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
TETRACHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
TOLUENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-TRANS-DICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1,1-TRICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2-TRICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
TRICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
VINYL CHLORIDE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
NICKEL	MG/L	LT0.03	0.11	0.13	0.14	0.14	0.14
NITROGEN, AMMONIA	MG/L	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
TEMPERATURE	C	14.	15.	15.	15.	16.	
GROUND WATER ELEVATION	FT MSL	584.62	582.62	583.22	585.26	582.3	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

----- GARY WORK
SAMPLING POINT, SAMPLE NO.

	PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT2-06 DOWNGRADIENT	HWT2 DOWNGR
ARSENIC		MG/L	0.05	0.007	0.002
BARIUM		MG/L	1.0	LT0.1	0.1
CADMUM		MG/L	0.01	0.028	0.023
CHROMIUM		MG/L	0.05	0.02	0.02
FLUORIDE		MG/L	1.4-2.4	3.2	4.7
LEAD		MG/L	0.05	LT0.03	LT0.03
MERCURY		MG/L	0.002	LT0.0002	0.0002
NITRATE		MG/L	10.	2.	3.6
SELENIUM		MG/L	0.01	LT0.02*	LT0.004
SILVER		MG/L	0.05	LT0.01	LT0.01
CHLORIDE		MG/L		2100.	1600.
IRON		MG/L		10.	0.09
MANGANESE		MG/L		0.8	0.4
PHENOLS		MG/L		LT0.02	LT0.02
SODIUM		MG/L		68.	46.
SULFATE		MG/L		780.	740.
PH		SU		6.8	9.
PH		SU		6.9	9.
PH		SU		6.9	9.
PH		SU		6.8	9.
SPECIFIC CONDUCTANCE		UMHOS/CM		7610.	5850.
SPECIFIC CONDUCTANCE		UMHOS/CM		7610.	5760.
SPECIFIC CONDUCTANCE		UMHOS/CM		7480.	5780.
SPECIFIC CONDUCTANCE		UMHOS/CM		7390.	5800.
TOTAL ORGANIC CARBON		MG/L		8.	6.2
TOTAL ORGANIC CARBON		MG/L		8.	6.5
TOTAL ORGANIC CARBON		MG/L		7.6	6.5
TOTAL ORGANIC CARBON		MG/L		7.2	6.5
TOTAL ORGANIC HALOGEN		UG/L		230.	11.
TOTAL ORGANIC HALOGEN		UG/L		230.	LT10.
TOTAL ORGANIC HALOGEN		UG/L		400.	LT10.
TOTAL ORGANIC HALOGEN		UG/L		79.	LT10.
ACROLEIN		UG/L		LT100.	LT100.
ACRYLONITRILE		UG/L		LT100.	LT100.
BENZENE		UG/L		LT5.	LT5.
BROMOFORM		UG/L		LT10.	LT10.
CARBON TETRACHLORIDE		UG/L		LT5.	LT5.

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT2-06	HWT2 DOWNGRADIENT 10/23/84 841005
			10/23/84	
CHLOROBENZENE	UG/L	LT5.	LT5.	
CHLORODIBROMOMETHANE	UG/L	LT5.	LT5.	
CHLOROETHANE	UG/L	LT10.	LT10.	
2-CHLOROETHYL VINYL ETHER	UG/L	LT10.	LT10.	
CHLOROFORM	UG/L	LT5.	LT5.	
DICHLOROBROMOMETHANE	UG/L	LT5.	LT5.	
1,1-DICHLOROETHANE	UG/L	LT5.	LT5.	
1,2-DICHLOROETHANE	UG/L	LT11.	LT11.	
1,1-DICHLOROETHYLENE	UG/L	LT5.	LT5.	
1,2-DICHLOROPROPANE	UG/L	LT10.	LT10.	
1,3-DICHLOROPROPYLENE	UG/L	LT5.	LT5.	
ETHYLBENZENE	UG/L	LT5.	LT5.	
METHYL BROMIDE	UG/L	LT10.	LT10.	
METHYL CHLORIDE	UG/L	LT10.	LT10.	
METHYLENE CHLORIDE	UG/L	LT5.	LT5.	
1,1,2,2-TETRACHLOROETHANE	UG/L	LT10.	LT10.	
TETRACHLOROETHYLENE	UG/L	LT5.	LT5.	
TOLUENE	UG/L	LT5.	LT5.	
1,2-TRANS-DICHLOROETHYLENE	UG/L	LT5.	LT5.	
1,1,1-TRICHLOROETHANE	UG/L	LT5.	LT5.	
1,1,2-TRICHLOROETHANE	UG/L	LT5.	LT5.	
TRICHLOROETHYLENE	UG/L	LT5.	LT5.	
VINYL CHLORIDE	UG/L	LT10.	LT10.	
CYANIDE, TOTAL, TIT.	MG/L	0.01	0.005	
NICKEL	MG/L	0.1	0.04	
NITROGEN, AMMONIA	MG/L	10.	0.53	
TEMPERATURE	C	15.	14.5	
GROUND WATER ELEVATION	FT MSL	581.67	584.27	

SITE HWT-13

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 5

 (+)HWT13-03 *
 HWT13-02(+) (DWGD) (+)HWT13-04(DWGD) ***
 (DWGD) ***** * * *
 * * *
 * * *
 * HWT-13 * *
 * * * *

 (+)HWT13-01
 (UPGD)

 HWT-14

 GARY WORKS * HWT-13 -----*

PARAMETER	UNIT	REGULATORY LEVEL	HWT13-01	HWT13-02	HWT13-03	HWT13-04
			UPGRADIENT 04/26/83	DOWNGRADIENT 04/26/83	UPGRADIENT 04/26/83	DOWNGRADIENT 04/25/83
ARSENIC	MG/L	0.05	0.002	LTO.005	0.003	0.01
BARIUM	MG/L	1.0	0.1	0.2	0.1	0.1
CADMIUM	MG/L	0.01	LTO.005	0.011	0.008	0.012
CHROMIUM	MG/L	0.05	LTO.01	0.01	0.02	0.02
FLUORIDE	MG/L	1.4-2.4	1.3	0.25	0.34	0.19
LEAD	MG/L	0.05	LTO.03	0.07	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.48	1.1	1.	4.
SELENIUM	MG/L	0.01	0.002	0.02	LTO.01	0.006
SILVER	MG/L	0.05	LTO.01	0.02	0.01	0.02
PH	SU		10.7	6.8	7.5	6.9
PH	SU		10.8	8.2	7.	6.9
PH	SU		10.7	6.5	7.9	6.9
PH	SU		10.8	6.4	8.2	6.9
SPECIFIC CONDUCTANCE	UMHOS/CM		420.	5240.	3590.	500.
SPECIFIC CONDUCTANCE	UMHOS/CM		510.	6330.	3730.	590.
SPECIFIC CONDUCTANCE	UMHOS/CM		550.	4770.	3530.	580.
SPECIFIC CONDUCTANCE	UMHOS/CM		540.	6440.	3830.	540.
TOTAL ORGANIC CARBON	MG/L		4.33	10.9	14.2	37.7
TOTAL ORGANIC CARBON	MG/L		4.49	11.1	14.8	38.6
TOTAL ORGANIC CARBON	MG/L		4.45	11.4	15.1	37.4
TOTAL ORGANIC CARBON	MG/L		4.54	11.	14.3	35.6
TOTAL ORGANIC HALOGEN	UG/L		16.	61.	64.	84.
TOTAL ORGANIC HALOGEN	UG/L		18.	57.	65.	76.
TOTAL ORGANIC HALOGEN	UG/L		25.	57.	74.	61.
TOTAL ORGANIC HALOGEN	UG/L		28.	64.	73.	97.
GROUND WATER ELEVATION	FT WD		7.43	4.34	4.27	4.18
TEMPERATURE	C		11.5	16.	15.	15.
NAPHTHALENE	UG/L		NO DATA	NO DATA	NO DATA	NO DATA
CYANIDE, TOT	MG/L		NO DATA	NO DATA	NO DATA	NO DATA
NICKEL	MG/L		LTO.03	0.06	0.04	0.06

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 02 YEAR: 83

PARAMETER	UNIT	REGULATORY LEVEL	HWT13-01	HWT13-02	HWT13-03	HWT13-04
			UPGRADIENT 06/22/83 830286	DOWNGRADIENT 06/21/83 830282	DOWNGRADIENT 06/21/83 830283	DOWNGRADIENT 06/21/83 830280
NICKEL	MG/L		LT0.03	0.1	0.04	0.09
SOLIDS, DISS. - TDS	MG/L		780.	10600.	4430.	7750.
ARSENIC	MG/L	0.05	0.002	LT0.001	0.003	0.011
BARIUM	MG/L	1.0	LT0.1	LT0.1	LT0.1	LT0.1
CADMUM	MG/L	0.01	LT0.005	0.02	LT0.005	0.016
CHLORIDE	MG/L		80.	2700.	770.	1700.
CHROMIUM	MG/L	0.05	LT0.01	0.04	LT0.01	LT0.01
IRON	MG/L		LT0.01	150.	0.13	85.
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03
MANGANESE	MG/L		LT0.01	1.6	0.13	1.87
MERCURY	MG/L	0.002	0.0003	LT0.0002	LT0.0002	0.0002
PHENOLS	MG/L		LT0.01	0.022	0.01	LT0.01
SELENIUM	MG/L	0.01	LT0.002	0.013	LT0.002	LT0.002
SILVER	MG/L	0.05	LT0.01	0.02	LT0.01	LT0.01
SODIUM	MG/L		30.8	85.9	75.4	83.5
SULFATE	MG/L		270.	1000.	1000.	1200.
PH	SU		10.3	6.	7.8	6.3
PH	SU		10.4	6.	7.8	6.3
PH	SU		10.3	6.	7.7	6.3
PH	SU		10.3	6.	7.8	6.3
SPECIFIC CONDUCTANCE	UMHOS/CM		710.	9400.	3610.	5400.
SPECIFIC CONDUCTANCE	UMHOS/CM		720.	9500.	3640.	5500.
SPECIFIC CONDUCTANCE	UMHOS/CM		710.	9600.	3610.	5600.
SPECIFIC CONDUCTANCE	UMHOS/CM		700.	8700.	3590.	5500.
TOTAL ORGANIC CARBON	MG/L		5.25	19.1	12.2	30.3
TEMPERATURE	C		14.	17.	16.	16.
GROUND WATER ELEVATION	FT WD		7.32	4.23	4.22	4.13

(+)HWT13-03	(DWGD)	(+)HWT13-04(DWGD)	***
(DWGD)	*****	*****	*
*	*	*	*
*	*	*	*
*	HWT-13	*	*
*	*	*	*
*****	*****	*****	NORTH
(+)HWT13-01		(UPGD)	

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| | HWT-14 |

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*----- GARY WORKS * HWT-13 -----*

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

#	(+)HWT13-03 (DWGD) (+)HWT13-04(DWGD) ***** (DWGD) *****	*
	*	***
	*	* *
	*	*
	*	*
	HWT-13	*
	*	*
	*****	NORTH
	(+)HWT13-01 (UPGD)	

HWT-14

GARY WORKS * HWT-13

SAMPLING POINT, SAMPLE NO.

PARAMETER	UNIT	REGULATORY LEVEL	HWT13-01	HWT13-02	HWT13-03	HWT13-04
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
ARSENIC	MG/L	0.05	0.001	LT0.001	0.005	0.02
BARIUM	MG/L	1.0	LT0.1	LT0.1	LT0.1	LT0.1
CADMIUM	MG/L	0.01	LT0.005	0.018	LT0.005	0.011
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	1.4	0.35	0.55	0.36
LEAD	MG/L	0.05	LT0.03	0.12	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	LT0.2	0.82	0.73	3.7
SELENIUM	MG/L	0.01	LT0.002	LT0.002	LT0.002	LT0.002
SILVER	MG/L	0.05	LT0.01	0.02	0.01	0.01
CHLORIDE	MG/L		41.	2400.	480.	1200.
IRON	MG/L		0.02	110.	0.75	67.
MANGANESE	MG/L		0.03	1.28	0.17	2.01
PHENOLS	MG/L		0.019	0.019	LT0.01	LT0.01
SODIUM	MG/L		23.4	83.5	65.2	92.6
SULFATE	MG/L		340.	1200.	1300.	1300.
PH	SU		10.	6.6	7.7	6.9
PH	SU		10.2	6.6	7.7	7.
PH	SU		10.1	6.6	7.6	6.9
PH	SU		10.1	6.6	7.7	7.
SPECIFIC CONDUCTANCE	UMHOS/CM		1080.	9100.	3320.	5100.
SPECIFIC CONDUCTANCE	UMHOS/CM		1080.	9200.	3290.	5100.
SPECIFIC CONDUCTANCE	UMHOS/CM		1060.	9200.	3280.	5070.
SPECIFIC CONDUCTANCE	UMHOS/CM		1060.	9100.	3290.	5100.
TOTAL ORGANIC CARBON	MG/L		5.3	17.2	17.1	34.3
TOTAL ORGANIC CARBON	MG/L		5.4	16.5	20.4	37.1
TOTAL ORGANIC CARBON	MG/L		5.4	16.7	20.6	35.1
TOTAL ORGANIC CARBON	MG/L		5.3	16.4	20.1	32.7
TOTAL ORGANIC HALOGEN	UG/L		18.	72.	44.	40.
TOTAL ORGANIC HALOGEN	UG/L		15.	79.	42.	40.
TOTAL ORGANIC HALOGEN	UG/L		16.	75.	45.	50.
TOTAL ORGANIC HALOGEN	UG/L		20.	89.	50.	37.
TEMPERATURE	C		15.	15.	13.	14.
GROUND WATER ELEVATION	FT WD		7.37	4.38	4.27	4.2
NICKEL	MG/L		LT0.03	0.08	LT0.03	0.05

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 21 NOV 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HW113-01	HW113-02	HW113-03	HW113-04
			UPGRADIENT 05/01/84 840545	DOWNGRADIENT 05/01/84 840547	DOWNGRADIENT 04/30/84 840544	DOWNGRADIENT 04/30/84 840543
ARSENIC	MG/L	0.05	0.004	0.026	0.02	0.028
BARIUM	MG/L	1.0	0.1	0.2	0.1	0.1
CADMIUM	MG/L	0.01	LT0.005	0.025	0.006	0.017
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.98	0.24	0.32	0.25
LEAD	MG/L	0.05	LT0.03	LT0.03	0.08	0.06
MERCURY	MG/L	0.002	0.0002	LT0.0002	0.0002	LT0.0002
NITRATE	MG/L	10.	0.24	1.6	0.65	1.3
SELENIUM	MG/L	0.01	LT0.004	0.04	LT0.008	0.018
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
PH	SU		10.3	6.6	7.3	6.9
PH	SU		10.3	6.6	7.3	6.8
PH	SU		10.3	6.6	7.3	6.9
PH	SU		10.3	6.6	7.3	7.
SPECIFIC CONDUCTANCE	UMHOS/CM		740.	10500.	3200.	5670.
SPECIFIC CONDUCTANCE	UMHOS/CM		750.	10700.	3230.	5660.
SPECIFIC CONDUCTANCE	UMHOS/CM		760.	10700.	3210.	5570.
SPECIFIC CONDUCTANCE	UMHOS/CM		750.	10600.	3200.	5670.
TOTAL ORGANIC CARBON	MG/L		3.7	26.9	23.5	41.3
TOTAL ORGANIC CARBON	MG/L		3.8	26.4	23.7	40.
TOTAL ORGANIC CARBON	MG/L		3.6	26.9	22.5	41.3
TOTAL ORGANIC CARBON	MG/L		3.9	27.2	21.8	40.2
TOTAL ORGANIC HALOGEN	UG/L		LT10.	180.	69.	160.
TOTAL ORGANIC HALOGEN	UG/L		10.	150.	77.	190.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	130.	64.	160.
TOTAL ORGANIC HALOGEN	UG/L		27.	110.	81.	240.
NICKEL	MG/L		LT0.03	0.13	LT0.03	0.08
TEMPERATURE	C		8.	16.	13.5	13.5
GROUND WATER ELEVATION	FT MSL		585.72	582.89	582.7	582.47

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 02 AUG 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

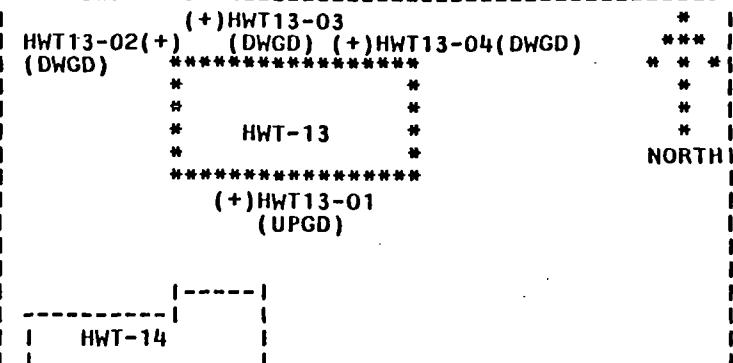
CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-13

SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT



PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT13-01	UPGRADIENT 06/25/84 840722	HWT13-02	HWT13-03	HWT13-04 06/25/84 840724
			DOWNGRADIENT 06/25/84 840726			DOWNGRADIENT 06/25/84 840724	
ARSENIC	MG/L	0.05	LT0.001	0.013	0.012	0.017	
BARIUM	MG/L	1.0	LT0.1	0.2	LT0.1	LT0.1	
CADMIUM	MG/L	0.01	LT0.005	0.021	LT0.005	LT0.005	
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	0.01	0.01	
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03	
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002	
SELENIUM	MG/L	0.01	LT0.004	0.014	LT0.004	LT0.004	
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01	
CHLORIDE	MG/L		60.	2900.	250.	790.	
IRON	MG/L		LT0.01	120.	9.3	36.9	
MANGANESE	MG/L		LT0.01	1.57	0.48	1.07	
PHENOLS	MG/L		LT0.02	LT0.02	LT0.02	LT0.02	
SODIUM	MG/L		24.	88.	63.	72.	
SULFATE	MG/L		310.	980.	1300.	1200.	
PH	SU		10.5	6.6	7.	6.7	
PH	SU		10.5	6.7	7.1	6.7	
PH	SU		10.5	6.6	7.1	6.7	
PH	SU		10.5	6.7	7.	6.7	
SPECIFIC CONDUCTANCE	UMHOS/CM		900.	8200.	2890.	4050.	
SPECIFIC CONDUCTANCE	UMHOS/CM		930.	8200.	2860.	4040.	
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	8200.	2800.	4050.	
SPECIFIC CONDUCTANCE	UMHOS/CM		900.	8200.	2800.	4010.	
TOTAL ORGANIC CARBON	MG/L		7.7	15.4	14.3	19.4	
TOTAL ORGANIC CARBON	MG/L			NO DATA	NO DATA	NO DATA	
TOTAL ORGANIC CARBON	MG/L		7.1	NO DATA	NO DATA	NO DATA	
TOTAL ORGANIC CARBON	MG/L		8.	NO DATA	NO DATA	NO DATA	
TOTAL ORGANIC CARBON	MG/L		7.5	NO DATA	NO DATA	NO DATA	
TOTAL ORGANIC HALOGEN	UG/L		LT10.	41.	LT10.	31.	
NICKEL	MG/L		LT0.03	0.12	LT0.03	LTO.03	
SOLIDS, DISS. - TDS	MG/L		780.	7610.	2650.	3950.	
TEMPERATURE	C		11.	17.	15.5	15.	
GROUND WATER ELEVATION	FT MSL		584.86	582.53	582.38	582.3	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-13

SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER

ARSENIC

BARIUM

CADMIUM

CHROMIUM

FLUORIDE

LEAD

MERCURY

NITRATE

SELENIUM

SILVER

CHLORIDE

IRON

MANGANESE

PHENOLS

SODIUM

SULFATE

PH

PH

PH

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

SPECIFIC CONDUCTANCE

TOTAL ORGANIC CARBON

TOTAL ORGANIC CARBON

TOTAL ORGANIC CARBON

TOTAL ORGANIC CARBON

TOTAL ORGANIC HALOGEN

TOTAL ORGANIC HALOGEN

TOTAL ORGANIC HALOGEN

ACROLEIN

ACRYLONITRILE

BENZENE

BROMOFORM

CARBON TETRACHLORIDE

PRIMARY
DRINKING WATER
STANDARDUNIT
MG/L0.05
0.00110/23/84
841003

HWT13-01

UPGRADIENT

10/23/84

841002

HWT13-02

DOWNGRADIENT

10/23/84

841001

HWT13-03

DOWNGRADIENT

10/23/84

841000

HWT13-04

DOWNGRADIENT

10/23/84

841000

SAMPLING POINT, SAMPLE NO.

HWT-13

HWT-14

HWT-15

HWT-16

HWT-17

HWT-18

HWT-19

HWT-20

HWT-21

HWT-22

HWT-23

HWT-24

HWT-25

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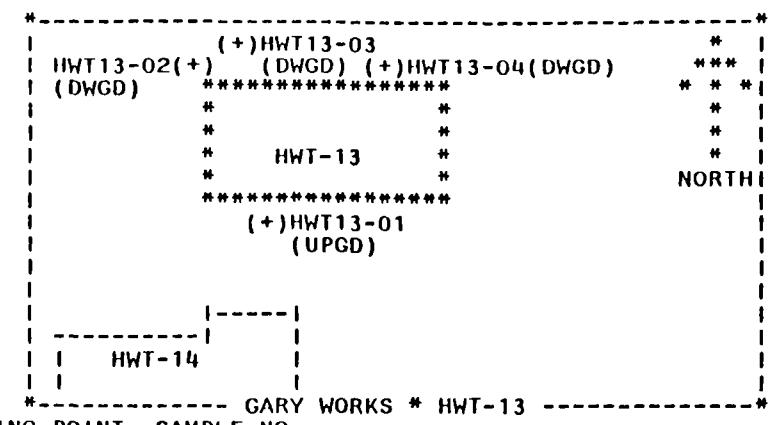
SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-13
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT13-01	UPGRADIENT	HWT13-02 DOWNGRADIENT 10/23/84 841002	HWT13-03 DOWNGRADIENT 10/23/84 841001	HWT13-04 DOWNGRADIENT 10/23/84 841000
			10/23/84 841003				
CHLOROBENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CHLORODIBROMOMETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
CHLOROETHANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
2-CHLOROETHYL VINYL ETHER	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
CHLOROFORM	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
DICHLOROBROMOMETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1-DICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROETHANE	UG/L		LT1.	LT1.	LT1.	LT1.	LT1.
1,1-DICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROPROPANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
1,3-DICHLOROPROPYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
ETHYL BENZENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
METHYL BROMIDE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
METHYL CHLORIDE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
METHYLENE CHLORIDE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L		LT10.	LT10.	LT10.	LT10.	LT10.
TETRACHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	LT5.
TOLUENE	UG/L		LT5.	LT5.	LT5.	7.	
1,2-TRANS-DICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	
1,1,1-TRICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	
1,1,2-TRICHLOROETHANE	UG/L		LT5.	LT5.	LT5.	LT5.	
TRICHLOROETHYLENE	UG/L		LT5.	LT5.	LT5.	LT5.	
VINYL CHLORIDE	UG/L		LT10.	LT10.	LT10.	LT10.	
CYANIDE, TOTAL, TIT.	MG/L		0.006	0.015	0.018	0.014	
NICKEL	MG/L		LT0.03	0.12	0.05	0.04	
NITROGEN, AMMONIA	MG/L		1.2	17.	18.	16.	
TEMPERATURE	C		13.	17.	15.	15.	
GROUND WATER ELEVATION	FT MSL		584.16	582.26	582.07	581.97	



*----- GARY WORKS * HWT-13 -----*

SITE HWT-14

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 19 MAY 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS

LOCATION: GARY, INDIANA

SITE: HWT-14

SAMPLING ROUND: 5

HWT-13 *

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 (+)HWT14-04(DAGD) UP
 (+)HWT14-03(DAGD) UP
 (+)HWT14-02(DAGD) UP
 *****UP*****
 *****UP*****
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 * HWT-14 *
 *
 *****UP*****
 (+)HWT14-01(UPGD)

----- GARY WORKS * HWT-14 -----*

PARAMETER	UNIT	REGULATORY LEVEL	HWT14-01	HWT14-02	HWT14-03	HWT14-04
			UPGRADIENT 04/28/83	DOWNGRADIENT UP 04/27/83	DOWNGRADIENT UP 04/27/83	DOWNGRADIENT UP 04/28/83
ARSENIC	MG/L	0.05	0.006	0.013	0.002	0.021
BARIUM	MG/L	1.0	0.1	LT0.1	LT0.1	LT0.1
CADMIUM	MG/L	0.01	LT0.005	LT0.005	LT0.005	0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	1.2	0.64	1.1	0.2
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.43	0.27	0.15	0.3
SELENIUM	MG/L	0.01	0.005	LT0.01	LT0.01	0.01
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
PH	SU		7.3	7.4	7.1	7.5
PH	SU		7.3	7.4	7.1	7.5
PH	SU		7.3	7.4	7.1	7.5
PH	SU		7.3	7.4	7.1	7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		1060.	1030.	1260.	1480.
SPECIFIC CONDUCTANCE	UMHOS/CM		1090.	1030.	1300.	1470.
SPECIFIC CONDUCTANCE	UMHOS/CM		1050.	1010.	1270.	1470.
SPECIFIC CONDUCTANCE	UMHOS/CM		1050.	1030.	1270.	1480.
TOTAL ORGANIC CARBON	MG/L		79.6	59.4	55.3	55.7
TOTAL ORGANIC CARBON	MG/L		76.1	62.	53.9	54.7
TOTAL ORGANIC CARBON	MG/L		75.5	58.8	55.4	56.
TOTAL ORGANIC CARBON	MG/L		77.6	59.2	50.4	54.1
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		12.	13.	LT10.	LT10.
GROUND WATER ELEVATION	FT WD		7.	7.48	7.96	8.27
TEMPERATURE	C		9.5	10.5	10.5	9.5
NAPHTHALENE	UG/L	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
CYANIDE, TOT	MG/L	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
NICKEL	MG/L	LTO.03	LTO.03	LTO.03	LTO.03	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 12 AUG 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-14
 SAMPLING ROUND: 02 YEAR: 83

PARAMETER	UNIT	REGULATORY LEVEL	HWT14-01	HWT14-02	HWT14-03	HWT14-04
			UPGRADIENT 06/23/83 830297	DOWNGRADIENT UP 06/23/83 830298	DOWNGRADIENT UP 06/23/83 830300	DOWNGRADIENT UP 06/23/83 830299
NICKEL	MG/L		LTO.03	0.03	LTO.03	LTO.03
SOLIDS, DISS. - TDS	MG/L		1050.	848.	776.	1320.
ARSENIC	MG/L	0.05	0.004	0.005	LTO.001	0.01
BARIUM	MG/L	1.0	LTO.1	LTO.1	LTO.1	0.1
CADMUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005
CHLORIDE	MG/L		10.	16.	19.	77.
CHROMIUM	MG/L	0.05	LTO.01	0.01	0.01	0.01
IRON	MG/L		4.6	1.28	0.37	2.25
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03
MANGANESE	MG/L		22.	0.45	0.15	0.34
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	LTO.0002
PHENOLS	MG/L		LTO.01	LTO.01	LTO.01	LTO.01
SELENIUM	MG/L	0.01	LTO.002	LTO.002	LTO.002	LTO.002
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
SODIUM	MG/L		17.1	16.5	10.5	75.1
SULFATE	MG/L		250.	190.	180.	430.
PH	SU		7.	6.6	7.	7.
PH	SU		7.1	6.8	7.	7.
PH	SU		7.	6.8	7.	7.1
PH	SU		7.	6.7	6.9	7.1
SPECIFIC CONDUCTANCE	UMHOS/CM		980.	930.	880.	1380.
SPECIFIC CONDUCTANCE	UMHOS/CM		1080.	870.	830.	1410.
SPECIFIC CONDUCTANCE	UMHOS/CM		1050.	930.	850.	1400.
SPECIFIC CONDUCTANCE	UMHOS/CM		1070.	970.	890.	1450.
TOTAL ORGANIC CARBON	MG/L		77.3	69.4	62.7	54.9
TEMPERATURE	C		12.	13.	13.	12.5
GROUND WATER ELEVATION	FT WD		6.88	7.14	7.47	7.59

HWT-13 * * * * *
 (+)HWT14-04(DWGD) UP * * * * *
 (+)HWT14-03(DWGD) UP * * * * *
 (+)HWT14-02(DWGD) UP * * * * *
 ***** UP * * * * *
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 HWT-14 * * * * *
 ***** UP * * * * *
 (+)HWT14-01(UPGD) * * * * *
 ----- CARY WORKS * HWT-14 -----

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

----- GARY WORKS -----

PARAMETER	UNIT	REGULATORY LEVEL	HWT14-01	UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
			10/27/83	10/26/83	10/26/83	10/27/83	10/27/83
ARSENIC	MG/L	0.05	0.005	0.01	0.008	0.03	
BARIUM	MG/L	1.0	LT0.1	LT0.1	LT0.1	LT0.1	
CADMUM	MG/L	0.01	LT0.005	LT0.005	LT0.005	LT0.005	
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01	
FLUORIDE	MG/L	1.4-2.4	2.	1.2	1.2	0.34	
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03	
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002	
NITRATE	MG/L	10.	0.82	LT0.2	1.4	LT0.1	
SELENIUM	MG/L	0.01	LT0.002	LT0.002	LT0.002	LT0.002	
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01	
CHLORIDE	MG/L		14.	5.3	32.	120.	
IRON	MG/L		8.58	0.5	4.29	5.1	
MANGANESE	MG/L		0.29	0.36	0.34	0.19	
PHENOLS	MG/L		LT0.01	LT0.01	LT0.01	0.03	
SODIUM	MG/L		17.6	17.5	23.3	105.	
SULFATE	MG/L		640.	230.	330.	340.	
PH	SU		7.2	7.3	7.3	7.5	
PH	SU		7.2	7.4	7.3	7.5	
PH	SU		7.2	7.4	7.3	7.5	
PH	SU		7.2	7.4	7.3	7.5	
SPECIFIC CONDUCTANCE	UMHOS/CM		1810.	950.	1160.	1360.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1800.	980.	1160.	1360.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1800.	960.	1150.	1360.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1780.	950.	1150.	1390.	
TOTAL ORGANIC CARBON	MG/L		129.	65.4	59.6	58.	
TOTAL ORGANIC CARBON	MG/L		124.	66.6	57.8	56.9	
TOTAL ORGANIC CARBON	MG/L		126.	65.9	56.6	57.8	
TOTAL ORGANIC CARBON	MG/L		129.	66.2	59.1	55.7	
TOTAL ORGANIC HALOGEN	UG/L		17.	17.	20.	10.	
TOTAL ORGANIC HALOGEN	UG/L		16.	33.	15.	20.	
TOTAL ORGANIC HALOGEN	UG/L		19.	17.	15.	12.	
TOTAL ORGANIC HALOGEN	UG/L		22.	23.	15.	18.	
TEMPERATURE	C		13.	11.	12.	11.	
GROUND WATER ELEVATION	FT WD		6.21	7.07	7.59	7.72	
NICKEL	MG/L		LT0.03	LT0.03	LT0.03	LT0.03	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 21 NOV 84

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 01 YEAR: 84 PURPOSE: SEMIANNUAL

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| HWT-13 *
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| (+)HWT14-04(DPGD)
| (+)HWT14-03(DPGD) UP
| (+)HWT14-02(DPGD) UP
| ***** UP
| ***** *
| * *
* HWT-14 *
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(+HWT14-01(UPGD)

*----- GARY WORKS * HWT-14
SAMPLING POINT. SAMPLE NO.

PARAMETER	UNIT	DRINKING WATER STANDARD	UPGRADENT	DOWNGRADENT	DOWNGRADENT	DOWNGRADENT
			05/02/84 840551	05/02/84 840549	05/02/84 840548	05/02/84 840550
ARSENIC	MG/L	0.05	0.033	0.028	0.005	0.018
BARIUM	MG/L	1.0	LT0.1	0.3	LT0.1	0.2
CADMUM	MG/L	0.01	LT0.005	LT0.005	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.29	0.25	0.97	0.25
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.74	0.53	0.33	0.62
SELENIUM	MG/L	0.01	LT0.004	LT0.004	LT0.004	0.004
SILVER	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
PH	SU		7.1	7.3	6.7	7.3
PH	SU		7.1	7.3	7.1	7.3
PH	SU		7.1	7.3	7.1	7.3
PH	SU		7.	7.3	6.8	7.2
SPECIFIC CONDUCTANCE	UMHOS/CM		900.	1050.	990.	1370.
SPECIFIC CONDUCTANCE	UMHOS/CM		880.	1060.	960.	1370.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1050.	990.	1390.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1060.	990.	1360.
TOTAL ORGANIC CARBON	MG/L		81.8	63.3	51.	53.6
TOTAL ORGANIC CARBON	MG/L		80.1	63.5	52.3	52.5
TOTAL ORGANIC CARBON	MG/L		79.9	62.6	53.8	54.3
TOTAL ORGANIC CARBON	MG/L		76.7	61.1	52.	55.4
TOTAL ORGANIC HALOGEN	UG/L		10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	12.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		12.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		14.	LT10.	LT10.	LT10.
NICKEL	MG/L		LT0.03	LT0.03	LT0.03	LT0.03
TEMPERATURE	C		11.	10.5	9.	10.
GROUND WATER ELEVATION	FT MSL		583.96	586.14	586.21	586.58

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 02 AUG 84

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 02 YEAR: 84 PURPOSE: SPLIT

HWT-13 *
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 (+)HWT14-04(DWGD) *
 (+)HWT14-03(DWGD) UP NORTH
 UP *****
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 * * HWT-14 *
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 (+)HWT14-01(UPGD)

----- GARY WORKS * HWT-14 -----*

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT14-01 UPGRADIENT 06/25/84	SAMPLING POINT, SAMPLE NO.		
				UP 840727	HWT14-02 DOWNGRADIENT 06/26/84	HWT14-03 DOWNGRADIENT 06/26/84
ARSENIC	MG/L	0.05	0.028	0.028	0.004	0.008
BARIUM	MG/L	1.0	LTO.1	LTO.1	LTO.1	LTO.1
CADMUM	MG/L	0.01	LTO.005	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	0.01	LTO.01
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002	0.0002
SELENIUM	MG/L	0.01	LTO.004	LTO.004	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01	LTO.01
CHLORIDE	MG/L	44.	110.	36.	74.	
IRON	MG/L	2.5	1.98	1.78	0.85	
MANGANESE	MG/L	0.85	0.51	0.56	0.34	
PHENOLS	MG/L	LTO.02	LTO.02	LTO.02	LTO.02	LTO.02
SODIUM	MG/L	16.	24.	26.	66.	
SULFATE	MG/L	120.	190.	180.	340.	
PH	SU	7.4	7.5	7.4	7.3	
PH	SU	7.3	7.5	7.4	7.3	
PH	SU	7.3	7.5	7.4	7.2	
PH	SU	7.3	7.6	7.3	7.3	
SPECIFIC CONDUCTANCE	UMHOS/CM	830.	1000.	880.	1320.	
SPECIFIC CONDUCTANCE	UMHOS/CM	770.	980.	870.	1310.	
SPECIFIC CONDUCTANCE	UMHOS/CM	830.	990.	860.	1310.	
SPECIFIC CONDUCTANCE	UMHOS/CM	800.	970.	870.	1310.	
TOTAL ORGANIC CARBON	MG/L	41.9	36.7	32.1	33.6	
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC CARBON	MG/L		NO DATA	NO DATA	NO DATA	NO DATA
TOTAL ORGANIC HALOGEN	UG/L	LTO10.	23.	LTO10.	10.	
NICKEL	MG/L	LTO.03	LTO.03	LTO.03	LTO.03	
SOLIDS, DISS. - TDS	MG/L	669.	797.	699.	1070.	
TEMPERATURE	C	12.	13.	12.	12.5	
GROUND WATER ELEVATION	FT MSL	584.29	585.48	585.53	585.78	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: HWT-14
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

HWT-13 ***
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 (+)HWT14-04(DPGD) UP
 (+)HWT14-03(DPGD) UP
 (+)HWT14-02(DPGD) UP
 ***** UP *
 * * HWT-14 *
 * * *
 (+)HWT14-01(UPGD)

NORTH

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT14-01	UPGRADIENT	HWT14-02	UPGRADIENT	HWT14-03	UPGRADIENT	HWT14-04	UPGRADIENT
			10/24/84	841013	10/24/84	841012	10/24/84	841010	10/24/84	841011
CHLORIDE	MG/L		4.6		42.		26.		78.	
IRON	MG/L		3.3		3.9		3.2		3.5	
MANGANESE	MG/L		0.69		0.58		0.45		0.3	
PHENOLS	MG/L	LT0.04*		LT0.04*		LT0.04*		LT0.04*		LT0.04*
SODIUM	MG/L		17.		27.		24.		89.	
SULFATE	MG/L		220.		100.		220.		430.	
PH	SU		7.2		7.3		7.3		7.3	
PH	SU		7.2		7.3		7.3		7.2	
PH	SU		7.2		7.3		7.3		7.2	
PH	SU		7.2		7.3		7.3		7.2	
SPECIFIC CONDUCTANCE	UMHOS/CM		920.		1100.		910.		1490.	
SPECIFIC CONDUCTANCE	UMHOS/CM		920.		1110.		910.		1490.	
SPECIFIC CONDUCTANCE	UMHOS/CM		920.		1090.		910.		1520.	
SPECIFIC CONDUCTANCE	UMHOS/CM		920.		1090.		910.		1510.	
TOTAL ORGANIC CARBON	MG/L		80.8		71.1		54.6		58.1	
TOTAL ORGANIC CARBON	MG/L		83.6		70.		53.7		57.8	
TOTAL ORGANIC CARBON	MG/L		83.1		72.		56.1		59.5	
TOTAL ORGANIC CARBON	MG/L		80.6		72.6		53.9		56.	
TOTAL ORGANIC HALOGEN	UG/L		LT10.		LT10.		LT10.		LT10.	
TOTAL ORGANIC HALOGEN	UG/L		LT10.		LT10.		LT10.		LT10.	
TOTAL ORGANIC HALOGEN	UG/L		LT10.		LT10.		LT10.		LT10.	
TOTAL ORGANIC HALOGEN	UG/L		LT10.		LT10.		LT10.		LT10.	
ACROLEIN	UG/L		LT100.		LT100.		LT100.		LT100.	
ACRYLONITRILE	UG/L		LT100.		LT100.		LT100.		LT100.	
BENZENE	UG/L		LT5.		LT5.		LT5.		LT5.	
BROMOFORM	UG/L		LT10.		LT10.		LT10.		LT10.	
CARBON TETRACHLORIDE	UG/L		LT5.		LT5.		LT5.		LT5.	
CHLOROBENZENE	UG/L		LT5.		LT5.		LT5.		LT5.	
CHLORODIBROMOMETHANE	UG/L		LT5.		LT5.		LT5.		LT5.	
CHLOROETHANE	UG/L		LT10.		LT10.		LT10.		LT10.	
2-CHLOROETHYL VINYL ETHER	UG/L		LT10.		LT10.		LT10.		LT10.	
CHLOROFORM	UG/L		LT5.		LT5.		LT5.		LT5.	
DICHLOROBROMOMETHANE	UG/L		LT5.		LT5.		LT5.		LT5.	
1,1-DICHLOROETHANE	UG/L		LT5.		LT5.		LT5.		LT5.	
1,2-DICHLOROETHANE	UG/L		LT1.		LT1.		LT1.		LT1.	
1,1-DICHLOROETHYLENE	UG/L		LT5.		LT5.		LT5.		LT5.	
1,2-DICHLOROPROPANE	UG/L		LT10.		LT10.		LT10.		LT10.	

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS LOCATION: GARY, INDIANA

SITE: HWT-14

SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT
1,3-DICHLOROPROPYLENE	UG/L
ETHYLBENZENE	UG/L
METHYL BROMIDE	UG/L
METHYL CHLORIDE	UG/L
METHYLENE CHLORIDE	UG/L
1,1,2,2-TETRACHLOROETHANE	UG/L
TETRACHLOROETHYLENE (PERCHLORO)	UG/L
TOLUENE	UG/L
1,2-TRANS-DICHLOROETHYLENE	UG/L
1,1,1-TRICHLOROETHANE	UG/L
1,1,2-TRICHLOROETHANE	UG/L
TRICHLOROETHYLENE	UG/L
VINYL CHLORIDE	UG/L
NICKEL	MG/L
TEMPERATURE	C
GROUND WATER ELEVATION	FT MSL

PARAMETER	UNIT	HWT14-01		HWT14-02		HWT14-03		HWT14-04	
		PRIMARY DRINKING WATER STANDARD	UPGRADIENT 10/24/84 841013	DOWNGRADIENT 10/24/84 841012	DOWNGRADIENT 10/24/84 841010	DOWNGRADIENT 10/24/84 841011			
1,3-DICHLOROPROPYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
ETHYLBENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
METHYL BROMIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.		
METHYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.		
METHYLENE CHLORIDE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
1,1,2,2-TETRACHLOROETHANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.		
TETRACHLOROETHYLENE (PERCHLORO)	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
TOLUENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
1,2-TRANS-DICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
1,1,1-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
1,1,2-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
TRICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.		
VINYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.		
NICKEL	MG/L	LT0.03	LT0.03	LT0.03	LT0.03	LT0.03	LT0.03		
TEMPERATURE	C	13.	13.	13.	13.	11.	11.		
GROUND WATER ELEVATION	FT MSL	581.93	582.72	582.85	584.85				

HWT-13	*** * * *
(+)HWT14-04(DAGD)	*
(+)HWT14-03(DAGD)	VP
(+)HWT14-02(DAGD)	VP
***** *****	*
***** *****	*
HWT-14	*
***** *****	*
(+)HWT14-01(UPGD)	

GARY WORKS * HWT-14 -----*

PERIMETER WELLS

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION GARY, INDIANA
 SITE: PERMTR SAMPLING POINT HWD5-05 PERIMETER

#-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE MICHIGAN	---
(+)	(+)(+)	GARY HWD2-05	(+)
*	*** HWT2-09	HARBOR	(+).
HWT2-10(+)(+)		.... HWD2-07	
HWT14-05		RIVER	* NORTH
.... CALUMET		***	
.... GRAND		* * *	
*----- GARY WORKS * PERIMETER WELLS -----			

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840554 05/01/84	840731 06/27/84	SAMPLING NO., DATE
ARSENIC	MG/L	0.05	0.002	LTO.001	
BARIUM	MG/L	1.0	LTO.1	LTO.1	
CADMIUM	MG/L	0.01	LTO.005	LTO.005	
CHIROMIUM	MG/L	0.05	LTO.01	LTO.01	
FLUORIDE	MG/L	1.4-2.4	0.63	0.48	
LEAD	MG/L	0.05	LTO.03	LTO.03	
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	
NITRATE	MG/L	10.	0.21	LTO.1	
SELENIUM	MG/L	0.01	LTO.004	LTO.004	
SILVER	MG/L	0.05	LTO.01	LTO.01	
CHLORIDE	MG/L		31.	38.	
IRON	MG/L		LTO.01	LTO.01	
MANGANESE	MG/L		LTO.01	LTO.01	
PHENOLS	MG/L		LTO.02	0.039	
SODIUM	MG/L		16.	17.	
SULFATE	MG/L		74.	61.	
PH	SU		11.3	11.9	
PH	SU		11.4	11.9	
PII	SU		11.4	12.	
PII	SU		11.4	11.9	
SPECIFIC CONDUCTANCE	UMHOS/CM		1390.	1260.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1390.	1270.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1390.	1290.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1400.	1290.	
TOTAL ORGANIC CARBON	MG/L		3.2	3.2	
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	
CYANIDE, TOTAL, TIT.	MG/L		NO DATA	NO DATA	
NICKEL	MG/L		LTO.03	LTO.03	
TEMPERATURE	C		14.	15.	
GROUND WATER ELEVATION	FT MSL		582.17	582.31	

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWT2-08 PERIMETER

#-----*(NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE LOCATIONS SHOWN WITH *)-----*

HWD5-05	HWT2-08	LAKE MICHIGAN	---
(+)	(+)(+)	HWD2-06	|---|---(+)- (+)
*	*** HWT2-09	GARY HWD2-05	*..
		HARBOR	(+).
HWT2-10(+)(+)		.... HWD2-07	
HWT14-05		RIVER	* NORTH
... ... CALUMET			***
..... GRAND			* * *
#----- GARY WORKS * PERIMETER WELLS -----*			

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	SAMPLING NO., DATE	
			840553	840735
ARSENIC	MG/L	0.05	0.075	0.052
BARIUM	MG/L	1.0	0.1	LT0.1
CADMUM	MG/L	0.01	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.44	0.26
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.2	0.25
SELENIUM	MG/L	0.01	LT0.004	LT0.004
SILVER	MG/L	0.05	LT0.01	LT0.01
CHLORIDE	MG/L		190.	210.
IRON	MG/L		0.13	0.14
MANGANESE	MG/L		0.03	0.1
PHENOLS	MG/L		0.033	0.083
SODIUM	MG/L		46.	43.
SULFATE	MG/L		11.	21.
PH	SU		8.7	8.9
PH	SU		8.7	8.9
PH	SU		8.7	8.9
SPECIFIC CONDUCTANCE	UMHOS/CM		930.	970.
SPECIFIC CONDUCTANCE	UMHOS/CM		930.	980.
SPECIFIC CONDUCTANCE	UMHOS/CM		940.	980.
SPECIFIC CONDUCTANCE	UMHOS/CM		940.	970.
TOTAL ORGANIC CARBON	MG/L		35.2	24.4
TOTAL ORGANIC HALOGEN	UG/L		31.	LT10.
CYANIDE, TOTAL, TIT.	MG/L		NO DATA	NO DATA
NICKEL	MG/L		LT0.03	LT0.03
TEMPERATURE	C		18.5	19.
GROUND WATER ELEVATION	FT MSL		582.63	582.5

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWT2-09 PERIMETER

#-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH #)
 | LAKE MICHIGAN -----
 | HWD5-05 HWT2-08 HWD2-06 | |--
 | (++) (++)- (+)--- | GARY HWD2-05 #..
 | * *** HWT2-09 HARBOR (+)..
 | *-----
 | HWT2-10(+) (+) HWT14-05 HWD2-07
 | RIVER * NORTH
 | ... CALUMET ***
 | GRAND * * *
 | *
 | *
 +----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840552 05/01/84	SAMPLING NO., DATE
ARSENIC	MG/L	0.05	0.061	840734 06/27/84
BARIUM	MG/L	1.0	LT0.1	LT0.1
CADMIUM	MG/L	0.01	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.49	0.35
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.39	LT0.1
SELENIUM	MG/L	0.01	LT0.004	LT0.004
SILVER	MG/L	0.05	LT0.01	LT0.01
CHLORIDE	MG/L		23.	23.
IRON	MG/L		0.05	LT0.01
MANGANESE	MG/L		LT0.01	LT0.01
PHENOLS	MG/L		LT0.02	0.021
SODIUM	MG/L		30.	32.
SULFATE	MG/L		19.	17.
PH	SU		10.5	11.1
PH	SU		10.6	11.1
PH	SU		10.5	11.1
PH	SU		10.5	11.1
SPECIFIC CONDUCTANCE	UMHOS/CM		376.	459.
SPECIFIC CONDUCTANCE	UMHOS/CM		377.	465.
SPECIFIC CONDUCTANCE	UMHOS/CM		388.	469.
SPECIFIC CONDUCTANCE	UMHOS/CM		378.	455.
TOTAL ORGANIC CARBON	MG/L		21.1	18.1
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L		NO DATA	NO DATA
NICKEL	MG/L		LT0.03	LT0.03
TEMPERATURE	C		14.5	14.
GROUND WATER ELEVATION	FT MSL		581.29	581.23

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWT2-10 PERIMETER#-----
I (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
LOCATIONS SHOWN WITH *)

IHW05-05	HWT2-08	LAKE MICHIGAN	IHW2-06	I-
(+)	(+)(+)	(+)-	(+)	(+)
*	***	HWT2-09	GARY HWD2-05	*
		*	HARBOR	(+).
		HWT2-10(+)(+)		HWD2-0
		HWT14-05		RIVER
		....	CALUMET	* NORTI
		....	GRAND	***
			* *
				*
				*

#----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840556 05/02/84	SAMPLING NO., DATE
ARSENIC	MG/L	0.05	LT0.01	840732 06/27/84
BARIUM	MG/L	1.0	0.1	LT0.1
CADMIUM	MG/L	0.01	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.23	0.2
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002
NITRATE	MG/L	10.	0.97	LT0.1
SELENIUM	MG/L	0.01	LT0.004	LT0.004
SILVER	MG/L	0.05	LT0.01	LT0.01
CHLORIDE	MG/L		2.3	3.4
IRON	MG/L		0.88	1.2
MANGANESE	MG/L		0.52	0.7
PHENOLS	MG/L		LT0.02	LT0.02
SODIUM	MG/L		16.	15.
SULFATE	MG/L		63.	75.
PH	SU		7.3	7.5
PH	SU		7.2	7.5
PH	SU		7.2	7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		730.	690.
SPECIFIC CONDUCTANCE	UMHOS/CM		720.	700.
SPECIFIC CONDUCTANCE	UMHOS/CM		730.	700.
SPECIFIC CONDUCTANCE	UMHOS/CM		730.	700.
TOTAL ORGANIC CARBON	MG/L		72.3	38.3
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L		NO DATA	NO DATA
NICKEL	MG/L		LT0.03	LT0.03
TEMPERATURE	C		9.5	17.
GROUND WATER ELEVATION	FT MSL		588.82	588.68

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION

FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWT14-05 PERIMETER

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE MICHIGAN	---
(+)	(+)(+)	GARY HWD2-05 *	---(+)---(+)
*	*** HWT2-09	HARBOR	(+).
HWT2-10(+)(+)		RIVER	* NORTH
HWT14-05		... CALUMET	***
		... GRAND	* * *
			*
			*

#----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY STANDARD	SAMPLING NO., DATE	
			840555 05/02/84	840733 06/27/84
ARSENIC	MG/L	0.05	0.03	0.038
BARIUM	MG/L	1.0	0.1	LTO.1
CADMIUM	MG/L	0.01	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	0.48	0.38
LEAD	MG/L	0.05	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.43	LTO.1
SELENIUM	MG/L	0.01	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01
CHLORIDE	MG/L		LTO.2	LTO.2
IRON	MG/L	4.73		6.63
MANGANESE	MG/L	0.96		0.56
PHENOLS	MG/L		LTO.02	LTO.02
SODIUM	MG/L	15.		14.
SULFATE	MG/L	230.		94.
PH	SU	6.9		7.3
PH	SU	6.9		7.3
PH	SU	6.9		7.3
PH	SU	7.		7.3
SPECIFIC CONDUCTANCE	UMHOS/CM	970.		800.
SPECIFIC CONDUCTANCE	UMHOS/CM	910.		650.
SPECIFIC CONDUCTANCE	UMHOS/CM	910.		660.
SPECIFIC CONDUCTANCE	UMHOS/CM	910.		660.
TOTAL ORGANIC CARBON	MG/L	81.5		49.4
TOTAL ORGANIC HALOGEN	UG/L	LT10.		23.
CYANIDE, TOTAL, TIT.	MG/L	NO DATA		NO DATA
NICKEL	MG/L	LTO.03		LTO.03
TEMPERATURE	C	10.		14.
GROUND WATER ELEVATION	FT MSL	584.34		584.13

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

**TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWD2-05 PERIMETER

PARAMETER	UNITS	PRIMARY		
		DRINKING WATER STANDARD	840559 04/30/84	8407 06/27
ARSENIC	MG/L	0.05	0.009	0.005
BARIUM	MG/L	1.0	LT0.1	LT0.1
CADMIUM	MG/L	0.01	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.99	0.55
LEAD	MG/L	0.05	LT0.03	LT0.03
MERCURY	MG/L	0.002	0.0002	LT0.0002
NITRATE	MG/L	10.	LT0.1	0.28
SELENIUM	MG/L	0.01	0.004	LT0.004
SILVER	MG/L	0.05	LT0.01	LT0.01
CHLORIDE	MG/L		64.	67.
IRON	MG/L		0.1	0.48
MANGANESE	MG/L		0.31	0.36
PHENOLS	MG/L		LT0.01	LT0.02
SODIUM	MG/L		68.	70.
SULFATE	MG/L		450.	390.
PH	SU		7.5	7.5
PH	SU		7.5	7.5
PH	SU		7.5	7.5
PH	SU		7.5	7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		1380.	1290.
SPECIFIC CONDUCTANCE	UMHOS/CM		1360.	1310.
SPECIFIC CONDUCTANCE	UMHOS/CM		1380.	1300.
SPECIFIC CONDUCTANCE	UMHOS/CM		1360.	1310.
TOTAL ORGANIC CARBON	MG/L		49.2	38.7
TOTAL ORGANIC HALOGEN	UG/L		13.	22.
ACENAPHTHENE	UG/L		LT5.	LT5.
ACENAPHTHYLENE	UG/L		LT5.	LT5.
ANTHRACENE	UG/L		LT5.	LT5.
BENZIDINE	UG/L		LT20.	LT20.
BENZO (A) ANTHRACENE	UG/L		LT5.	LT5.
BENZO (A) PYRENE	UG/L		LT10.	LT10.
BENZO (B) FLUORANTHENE	UG/L		LT10.	LT10.
BENZO (G, H, I) PERYLENE	UG/L		LT10.	LT10.
BENZO (K) FLUORANTHENE	UG/L		LT10.	LT10.
BIS (2-CHLOROETHIOXY) METHANE	UG/L		LT10.	LT10.
BIS (2-CHLOROETHYL) ETHER	UG/L		LT5.	LT5.
BIS (2-CHLOROISOPROPYL) ETHE	UG/L		LT10.	LT10.
BIS (2-ETHYLHEXYL) PHthalate	UG/L		LT5.	LT5.

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

**TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWB2-05 PERIMETER

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)
 |
 | HW05-05 HWT2-08 LAKE MICHIGAN -----
 | -----|-----|-----|-----|-----|
 | (+) (+)(+)- GARY HWD2-05 *..
 | * *** HWT2-09 HARBOR (+).
 |
 | HWT2-10(+) (+) HWD2-07
 | HW14-05
 | RIVER # NORTH
 | CALUMET ***
 |
 | GRAND # *
 |
 *----- GARY WORKS * PERIMETER WELLS -----
 NO. DATE

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840559 04/30/84	840738 06/27/84
4-BROMOPHENYL PHENYL ETHER	UG/L	LT5.		LT5.
BENZYL BUTYL PHTHALATE	UG/L	LT5.		LT5.
2-CHLORONAPHTHALENE	UG/L	LT5.		LT5.
4-CHLOROPHENYL PHENYL ETHER	UG/L	LT5.		LT5.
CHRYSENE	UG/L	LT10.		LT10.
DIBENZO (A,H) ANTHRACENE	UG/L	LT10.		LT10.
1,2-DICHLOROBENZENE	UG/L	LT5.		LT5.
1,3-DICHLOROBENZENE	UG/L	LT5.		LT5.
1,4-DICHLOROBENZENE	UG/L	LT5.		LT5.
3,3-DICHLOROBENZIDINE	UG/L	LT10.		LT10.
DIETHYL PHTHALATE	UG/L	LT5.		LT5.
DIMETHYL PHTHALATE	UG/L	LT5.		LT5.
DI-N-BUTYL PHTHALATE	UG/L	LT20.		LT5.
2,4-DINITROTOLUENE	UG/L	LT10.		LT10.
2,6-DINITROTOLUENE	UG/L	LT10.		LT10.
DI-N-OCTYL PHTHALATE	UG/L	LT5.		LT5.
1,2-DIPHENYLHYDRAZINE	UG/L	LT10.		LT10.
FLUORANTHENE	UG/L	LT5.		LT5.
FLUORENE	UG/L	LT5.		LT5.
HEXACHLOROBENZENE	UG/L	LT5.		LT5.
HEXACHLOROBUTADIENE	UG/L	LT5.		LT5.
HEXACHLOROCYCLOPENTADIENE	UG/L	LT5.		LT5.
HEXACHLOROETHANE	UG/L	LT5.		LT5.
INDENO (1,2,3-CD) PYRENE	UG/L	LT10.		LT10.
ISOPHORONE	UG/L	LT5.		LT5.
NAPHTHALENE	UG/L	LT5.		LT5.
NITROBENZENE	UG/L	LT5.		LT5.
N-NITROSODIMETHYLAMINE	UG/L	LT25.		LT25.
N-NITROSODI-N-PROPYLAMINE	UG/L	LT5.		LT5.
N-NITROSODIPHENYLAMINE	UG/L	LT5.		LT5.
PHENANTHRENE	UG/L	LT5.		LT5.
PYRENE	UG/L	LT5.		LT5.
1,2,4-TRICHLOROBENZENE	UG/L	LT5.		LT5.
CYANIDE, TOTAL, TIT.	MG/L	0.092		0.089
NICKEL	MG/L	NO DATA		NO DATA
TEMPERATURE	C	13.		13.
GROUND WATER ELEVATION	FT MSL	584.82		584.85

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION GARY, INDIANA
 SITE: PERMTR SAMPLING POINT HWD2-06 PERIMETER

#-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)
 | LAKE MICHIGAN -----
 | HWD5-05 HWT2-08 HWD2-06 | |
 | (+) (+)(+)----- | | (+)- (+)
 | * *** HWT2-09 | | GARY HWD2-05 *.
 | * | | HARBOR (+).
 | HWT2-10(+)(+) | | HWD2-07
 | HWT14-05 | | RIVER * NORTH
 | CALUMET ***
 | GRAND *
 | *
 *----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840558 04/30/84	840737 06/27/84	SAMPLING NO., DATE
ARSENIC	MG/L	0.05	0.013	0.019	
BARIUM	MG/L	1.0	0.1	LTO.1	
CADMUM	MG/L	0.01	LTO.005	LTO.005	
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	
FLUORIDE	MG/L	1.4-2.4	0.77	1.15	
LEAD	MG/L	0.05	LTO.03	LTO.03	
MERCURY	MG/L	0.002	0.0002	LTO.0002	
NITRATE	MG/L	10.	0.28	LTO.1	
SELENIUM	MG/L	0.01	LTO.004	LTO.004	
SILVER	MG/L	0.05	LTO.01	LTO.01	
CHLORIDE	MG/L		88.	30.	
IRON	MG/L		0.8	2.96	
MANGANESE	MG/L		0.91	0.3	
PHENOLS	MG/L		LTO.01	LTO.02	
SODIUM	MG/L		57.	50.	
SULFATE	MG/L		450.	300.	
PH	SU		7.4	7.4	
PH	SU		7.3	7.4	
PH	SU		7.4	7.4	
PH	SU		7.2	7.4	
SPECIFIC CONDUCTANCE	UMHOS/CM		1540.	1410.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1540.	1430.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1530.	1410.	
SPECIFIC CONDUCTANCE	UMHOS/CM		1540.	1420.	
TOTAL ORGANIC CARBON	MG/L		42.3	40.8	
TOTAL ORGANIC HALOGEN	UG/L		21.	LTO.	
ACENAPHTHENE	UG/L		LT5.	LT5.	
ACENAPHTHYLENE	UG/L		LT5.	LT5.	
ANTHRACENE	UG/L		LT5.	LT5.	
BENZIDINE	UG/L		LT20.	LT20.	
BENZO (A) ANTHRACENE	UG/L		LT5.	LT5.	
BENZO (A) PYRENE	UG/L		LT10.	LT10.	
BENZO (B) FLUORANTHENE	UG/L		LT10.	LT10.	
BENZO (G, H, I) PERYLENE	UG/L		LT10.	LT10.	
BENZO (K) FLUORANTHENE	UG/L		LT10.	LT10.	
BIS (2-CHLOROETHOXY) METHANE	UG/L		LT10.	LT10.	
BIS (2-CHLOROETHYL) ETHER	UG/L		LT5.	LT5.	
BIS (2-CHLOROISOPROPYL) ETHER	UG/L		LT10.	LT10.	
BIS (2-ETHYLHEXYL) PHthalate	UG/L		LT5.	LT5.	

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION GARY, INDIANA
 SITE: PERMTR SAMPLING POINT HWD2-06 PERIMETER

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE MICHIGAN	---
		HWD2-06	I --
(+)	(+)(+)	-----	-----(+)- (+)
*	***	HWT2-09	CARY HWD2-05 *..
	*		HARBOR (+).
		HWT2-10(+)(+)	.... HWD2-07
		HWT14-05	..... RIVER
			* NORTH
		... ... CALUMET	***
			* * *
		.... GRAND	*
			*

*----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	840558	SAMPLING NO., DATE
			04/30/84	840737 06/27/84
4-BROMOPHENYL PHENYL ETHER	UG/L	LT5.	LT5.	
BENZYL BUTYL PHTHALATE	UG/L	LT5.	LT5.	
2-CHLORONAPHTHALENE	UG/L	LT5.	LT5.	
4-CHLOROPHENYL PHENYL ETHER	UG/L	LT5.	LT5.	
CHRYSENE	UG/L	LT10.	LT10.	
DIBENZO (A, H) ANTHRACENE	UG/L	LT10.	LT10.	
1,2-DICHLOROBENZENE	UG/L	LT5.	LT5.	
1,3-DICHLOROBENZENE	UG/L	LT5.	LT5.	
1,4-DICHLOROBENZENE	UG/L	LT5.	LT5.	
3,3-DICHLOROBENZIDINE	UG/L	LT10.	LT10.	
DIETHYL PHTHALATE	UG/L	LT5.	LT5.	
DIMETHYL PHTHALATE	UG/L	LT5.	LT5.	
DI-N-BUTYLPHTHALATE	UG/L	LT20.	LT5.	
2,4-DINITROTOLUENE	UG/L	LT10.	LT10.	
2,6-DINITROTOLUENE	UG/L	LT10.	LT10.	
DI-N-OCTYLPHthalate	UG/L	LT5.	LT5.	
1,2-DIPHENYLHYDRAZINE	UG/L	LT10.	LT10.	
FLUORANTHENE	UG/L	LT5.	LT5.	
FLUORENE	UG/L	LT5.	LT5.	
HEXACHLOROBENZENE	UG/L	LT5.	LT5.	
HEXACHLOROBUTADIENE	UG/L	LT5.	LT5.	
HEXACHLOROCYCLOPENTADIENE	UG/L	LT5.	LT5.	
HEXACHLOROETHANE	UG/L	LT5.	LT5.	
INDENO (1,2,3-CD) PYRENE	UG/L	LT10.	LT10.	
ISOPHORONE	UG/L	LT5.	LT5.	
NAPHTHALENE	UG/L	LT5.	LT5.	
NITROBENZENE	UG/L	LT5.	LT5.	
N-NITROSODIMETHYLAMINE	UG/L	LT25.	LT25.	
N-NITROSODI-N-PROPYLAMINE	UG/L	LT5.	LT5.	
N-NITROSODIPHENYLAMINE	UG/L	LT5.	LT5.	
PHENANTHRENE	UG/L	LT5.	LT5.	
PYRENE	UG/L	LT5.	LT5.	
1,2,4-TRICHLOROBENZENE	UG/L	LT5.	LT5.	
CYANIDE, TOTAL, TIT.	MG/L	0.016	0.017	
NICKEL	MG/L	NO DATA	NO DATA	
TEMPERATURE	C	13.	14.	
GROUND WATER ELEVATION	FT MSL	585.61	585.44	

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION GARY, INDIANA
SITE: PERMTR SAMPLING POINT HWD2-07 PERIMETER#-----
| (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
| LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE MICHIGAN	---
(+)	(+)(+)	GARY HWD2-05 *	(+)
*	*** HWT2-09	HARBOR	(+).
* HWT2-10(+)(+)		.... HWD2-07	
HWT14-05		RIVER	* NORTH
... ... CALUMET		***	
..... GRAND		* * *	
		* #	
		* #	

#----- GARY WORKS * PERIMETER WELLS -----

PARAMETER	UNITS	PRIMARY		SAMPLING NO., DATE
		DRINKING WATER	STANDARD	
ARSENIC	MG/L	0.05	0.034	840560 04/30/84
BARIUM	MG/L	1.0	0.1	840739 06/27/84
CADMIUM	MG/L	0.01	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	0.59	0.4
LEAD	MG/L	0.05	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.64	0.14
SELENIUM	MG/L	0.01	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01
CHLORIDE	MG/L		2.5	3.7
IRON	MG/L		0.25	0.05
MANGANESE	MG/L		0.48	0.36
PHENOLS	MG/L		0.015	LTO.02
SODIUM	MG/L		86.	87.
SULFATE	MG/L		460.	300.
PH	SU		7.4	7.5
PH	SU		7.4	7.5
PH	SU		7.4	7.5
PH	SU		7.4	7.6
SPECIFIC CONDUCTANCE	UMHOS/CM		1980.	1840.
SPECIFIC CONDUCTANCE	UMHOS/CM		1940.	1830.
SPECIFIC CONDUCTANCE	UMHOS/CM		1930.	1820.
SPECIFIC CONDUCTANCE	UMHOS/CM		1940.	1820.
TOTAL ORGANIC CARBON	MG/L		185.	174.
TOTAL ORGANIC HALOGEN	UG/L		22.	LTO.
ACENAPHTHENE	UG/L		L15.	L5.
ACENAPHTHYLENE	UG/L		L15.	L5.
ANTHRACENE	UG/L		L15.	L5.
BENZIDINE	UG/L		LT20.	LT20.
BENZO (A) ANTHRACENE	UG/L		L15.	L5.
BENZO (A) PYRENE	UG/L		LT10.	LT10.
BENZO (B) FLUORANTHENE	UG/L		LT10.	LT10.
BENZO (G, H, I) PERYLENE	UG/L		LT10.	LT10.
BENZO (K) FLUORANTHENE	UG/L		LT10.	LT10.
BIS (2-CHLOROETHOXY) METHANE	UG/L		LT10.	LT10.
BIS (2-CHLOROETHYL) ETHER	UG/L		LT5.	LT5.
BIS (2-CHLOROISOPROPYL) ETHER	UG/L		LT10.	LT10.
BIS (2-ETHYLHEXYL) PHTHALATE	UG/L		LT40.	LT5.

SUMMARY REPORT - SAMPLING POINT (SR-3)

REPORT DATE 20 NOV 84

TABULATION OF RESULTS BY FACILITY, SITE,
SAMPLING POINT AND SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION GARY, INDIANA
 SITE: PERMTR SAMPLING POINT HWD2-07 PERIMETER

(NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE MICHIGAN	---
(+)	(+)(+)	GARY HWD2-05 *	---
*	*** HWT2-09	HARBOR (+)	
HWT2-10(+)(+)		.... HWD2-07	
HWT14-05		RIVER	* NORTH
... ... CALUMET		*** *	
..... GRAND		*	
#----- GARY WORKS * PERIMETER WELLS -----			

PARAMETER	UNITS	PRIMARY DRINKING WATER STANDARD	SAMPLING NO., DATE	
			840560 04/30/84	840739 06/27/84
4-BROMOPHENYL PHENYL ETHER	UG/L	LT5.	LT5.	
BENZYL BUTYL PHTHALATE	UG/L	LT5.	LT5.	
2-CHLORONAPHTHALENE	UG/L	LT5.	LT5.	
4-CHLOROPHENYL PHENYL ETHER	UG/L	LT5.	LT5.	
CHRYSENE	UG/L	LT10.	LT10.	
DIBENZO (A,H) ANTHRACENE	UG/L	LT10.	LT10.	
1,2-DICHLOROBENZENE	UG/L	LT5.	LT5.	
1,3-DICHLOROBENZENE	UG/L	LT5.	LT5.	
1,4-DICHLOROBENZENE	UG/L	LT5.	LT5.	
3,3-DICHLOROBENZIDINE	UG/L	LT10.	LT10.	
DIETHYL PHTHALATE	UG/L	LT5.	LT5.	
DIMETHYL PHTHALATE	UG/L	LT5.	LT5.	
DI-N-BUTYLPHthalate	UG/L	LT20.	LT5.	
2,4-DINITROTOLUENE	UG/L	LT10.	LT10.	
2,6-DINITROTOLUENE	UG/L	LT10.	LT10.	
DI-N-OCTYLPHthalate	UG/L	LT20.	LT5.	
1,2-DIPHENYLHYDRAZINE	UG/L	LT10.	LT10.	
FLUORANTHENE	UG/L	LT5.	LT5.	
FLUORENE	UG/L	LT5.	LT5.	
HEXACHLOROBENZENE	UG/L	LT5.	LT5.	
HEXACHLOROBUTADIENE	UG/L	LT5.	LT5.	
HEXACHLOROCYCLOPENTADIENE	UG/L	LT5.	LT5.	
HEXACHLOROETHANE	UG/L	LT5.	LT5.	
INDENO (1,2,3-CD) PYRENE	UG/L	LT10.	LT10.	
ISOPHORONE	UG/L	LT5.	LT10.	
NAPHTHALENE	UG/L	LT5.	LT10.	
NITROBENZENE	UG/L	LT5.	LT10.	
N-NITROSODIMETHYLAMINE	UG/L	LT25.	LT50.	
N-NITROSODI-N-PROPYLAMINE	UG/L	LT5.	LT5.	
N-NITROSODIPHENYLAMINE	UG/L	LT5.	LT5.	
PHENANTHRENE	UG/L	LT5.	LT5.	
PYRENE	UG/L	LT5.	LT5.	
1,2,4-TRICHLOROBENZENE	UG/L	LT5.	LT5.	
CYANIDE, TOTAL, TIT.	MG/L	0.014	0.013	
NICKEL	MG/L	NO DATA	NO DATA	
TEMPERATURE	C	11.	13.5	
GROUND WATER ELEVATION	FT MSL	592.54	592.8	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: PERMTR
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
LOCATIONS SHOWN WITH *)

HWD5-05	HWT2-08	LAKE	MICHIGAN	---
			HWD2-06	| |
(+)	(+)(+)	(+)	(+)	(+)
*	***	GARY	HWD2-05	*
		HARBOR	(+).	
	HWT2-10(+)(+)			....
	HWT14-05		RIVER	* NORTH
			CALUMET	***
				* * *
		GRAND		*
				*

*----- GARY WORKS * PERIMETER WELLS -----*

	HWD5-05 PRIMARY DRINKING WATER STANDARD	HWD5-05 PERIMETER 10/23/84 841023	HWT2-08 PERIMETER 10/23/84 841022	HWT2-09 PERIMETER 10/22/84 841022	HWT2-10 PERIMETER 10/24/84 841027	HWT14-05 PERIMETER 10/24/84 841025
PARAMETER	UNIT					
ARSENIC	MG/L	0.05	0.001	0.066	0.061	0.04
BARIUM	MG/L	1.0	LT0.1	LT0.1	0.1	0.2
CADMIUM	MG/L	0.01	LT0.005	LT0.005	LT0.005	LT0.005
CHROMIUM	MG/L	0.05	LT0.01	LT0.01	LT0.01	LT0.01
FLUORIDE	MG/L	1.4-2.4	0.96	0.28	0.6	0.23
LEAD	MG/L	0.05	LT0.03	LT0.03	LT0.03	LT0.03
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	0.0003
NITRATE	MG/L	10.	0.85	1.4	0.45	0.25
SELENIUM	MG/L	0.01	LT0.004	LT0.004	LT0.004	LT0.004
SILVER	MG/L	0.05	LT0.01	LT0.01	0.01	LT0.01
CHLORIDE	MG/L		41.	2000. **	21.	2.2
IRON	MG/L		0.03	0.22	LT0.01	2.6
MANGANESE	MG/L		LT0.01	0.41	LT0.01	13.
PHENOLS	MG/L		LT0.04*	LT0.04*	0.03	LT0.04*
SODIUM	MG/L		20.	46.	35.	16.
SULFATE	MG/L		68.	9.	18.	55.
PH	SU		11.5	8.1	11.	7.3
PH	SU		11.6	8.1	11.	7.3
PH	SU		11.7	8.1	11.1	7.3
PH	SU		11.6	8.1	11.	7.3
SPECIFIC CONDUCTANCE	UMHOS/CM		1420.	1270.	510.	800.
SPECIFIC CONDUCTANCE	UMHOS/CM		1410.	1230.	520.	810.
SPECIFIC CONDUCTANCE	UMHOS/CM		1420.	1230.	510.	810.
SPECIFIC CONDUCTANCE	UMHOS/CM		1420.	1260.	510.	810.
TOTAL ORGANIC CARBON	MG/L		3.1	1500. **	18.1	83.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
ACROLEIN	UG/L		LT100.	LT100.	LT100.	LT100.
ACRYLONITRILE	UG/L		LT100.	LT100.	LT100.	LT100.
BENZENE	UG/L		LT5.	LT5.	LT5.	LT5.
BROMOFORM	UG/L		LT10.	LT10.	LT10.	LT10.
CARBON TETRACHLORIDE	UG/L		LT5.	LT5.	LT5.	LT5.

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

**VALUES SUSPECT BASED UPON PREVIOUS RESULTS. NEXT SAMPLING WILL DETERMINE VALIDITY.

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: PERMIR
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL#-----
| (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
| LOCATIONS SHOWN WITH *)
|-----LAKE MICHIGAN -----
HWD5-05 HWT2-08 HWD2-06 I I--
-----|-----|-----|-----
| (+) (+)(+)- (+) GARY HWD2-05 *..
| * *** HWT2-09 HARBOR (+).
|-----|-----|-----
HWT2-10(+) (+) HWT14-05 RIVER # NORTH
.... ... CALUMET ***
.... ... GRAND * * *
.... * *
-----GARY WORKS * PERIMETER WELLS -----
SAMPLING POINT, SAMPLE NO.
HWD5-05 HWT2-08 HWT2-09 HWT2-10 HWT14-05
PERIMETER PERIMETER PERIMETER PERIMETER PERIMETER
10/23/84 10/23/84 10/22/84 10/24/84 10/24/84
841023 841022 841027 841024 841025

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD5-05 10/23/84 841023	HWT2-08 10/23/84 841022	HWT2-09 10/22/84 841027	HWT2-10 10/24/84 841024	HWT14-05 10/24/84 841025
CHLOROBENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
CHLORODIBROMOMETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
CHLOROETHANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
2-CHLOROETHYL VINYL ETHER	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
CHLOROFORM	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
DICHLOROBROMOMETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,1-DICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROETHANE	UG/L	LT1.	LT1.	LT1.	LT1.	LT1.	LT1.
1,1-DICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-DICHLOROPROPANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
1,3-DICHLOROPROPYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
ETHYLBENZENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
METHYL BROMIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
METHYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
METHYLENE CHLORIDE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
TETRACHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
TOLUENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,2-TRANS-DICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,1-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
1,1,2-TRICHLOROETHANE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
TRICHLOROETHYLENE	UG/L	LT5.	LT5.	LT5.	LT5.	LT5.	LT5.
VINYL CHLORIDE	UG/L	LT10.	LT10.	LT10.	LT10.	LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L	NO DATA	NO DATA	0.006	NO DATA	NO DATA	NO DATA
NICKEL	MG/L	LT0.03	LT0.03	LT0.03	LT0.03	LT0.03	LT0.03
NITROGEN, AMMONIA	MG/L	NO DATA	NO DATA	11.	NO DATA	NO DATA	NO DATA
TEMPERATURE	C	15.	18.	13.5	12.	11.	11.
GROUND WATER ELEVATION	FT MSL	581.71	582.	580.73	585.05	582.41	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: PERMTR
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD2-05 PERIMETER 10/22/84 841019	HWD2-06 PERIMETER 10/22/84 841020	HWD2-07 PERIMETER 10/22/84 841018
ARSENIC	MG/L	0.05	0.008	0.029	0.039
BARIUM	MG/L	1.0	LTO.1	LTO.1	0.1
CADMIUM	MG/L	0.01	LTO.005	LTO.005	LTO.005
CHROMIUM	MG/L	0.05	LTO.01	LTO.01	LTO.01
FLUORIDE	MG/L	1.4-2.4	1.3	0.86	0.88
LEAD	MG/L	0.05	LTO.03	LTO.03	LTO.03
MERCURY	MG/L	0.002	LTO.0002	LTO.0002	LTO.0002
NITRATE	MG/L	10.	0.65	0.8	0.55
SELENIUM	MG/L	0.01	LTO.004	LTO.004	LTO.004
SILVER	MG/L	0.05	LTO.01	LTO.01	LTO.01
CHLORIDE	MG/L		61.	74.	3.7
IRON	MG/L		0.51	4.2	0.25
MANGANESE	MG/L		0.2	0.2	0.2
PHENOOLS	MG/L		LTO.02	LTO.02	LTO.02
SODIUM	MG/L		71.	56.	58.
SULFATE	MG/L		360.	380.	350.
pH	SU		7.3	7.3	7.2
pH	SU		7.3	7.3	7.2
pH	SU		7.3	7.3	7.3
pH	SU		7.3	7.3	7.3
SPECIFIC CONDUCTANCE	UMHOS/CM		1270.	1440.	1670.
SPECIFIC CONDUCTANCE	UMHOS/CM		1300.	1470.	1670.
SPECIFIC CONDUCTANCE	UMHOS/CM		1300.	1470.	1670.
SPECIFIC CONDUCTANCE	UMHOS/CM		1300.	1470.	1670.
TOTAL ORGANIC CARBON	MG/L		44.8	63.9	127.
TOTAL ORGANIC HALOGEN	UG/L		23.	20.	LTO.
ACROLEIN	UG/L		LTO.	LTO.	LTO.
ACRYLONITRILE	UG/L		LTO.	LTO.	LTO.
BENZENE	UG/L		LTO.	LTO.	1100.*
BROMOFORM	UG/L		LTO.	LTO.	LTO.
CARBON TETRACHLORIDE	UG/L		LTO.	LTO.	LTO.

* VALUE SUSPECT

* (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE LOCATIONS SHOWN WITH *)

LAKE MICHIGAN	HWD2-06	HWT2-08	HWT2-09	GARY HWD2-05	HARBOR HWD2-07
(+)	(+)	(+)	*	(+)	(+)
RIVER	NORTH	CALUMET	GRAND	***	*
...	***	*
.....	*

----- GARY WORKS * PERIMETER WELLS -----*

SAMPLING POINT, SAMPLE NO.	HWD2-06	HWD2-07
PERIMETER	PERIMETER	PERIMETER
10/22/84	10/22/84	10/22/84
841018	841018	841018

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: PERMTR
 SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)
 |
 | LAKE MICHIGAN -----
 | HWD5-05 HWT2-08 HWD2-06 | 1 --
 | (+) (+) (+) ----- (+) (++)
 | * *** HWT2-09 GARY HWD2-05 *..
 | * HARBOR (+).
 | HWT2-10(+) (+) HWD2-071
 | HWT14-05 RIVER * NORTH
 | CALUMET ***
 | GRAND *
 | *
 | *
 *----- GARY WORKS * PERIMETER WELLS -----*

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD2-05	SAMPLING POINT, SAMPLE NO.
			PERIMETER 10/22/84 841019	HWD2-06 PERIMETER 10/22/84 841020
CHLOROBENZENE	UG/L		LT5.	LT5.
CHLORODIBROMOMETHANE	UG/L		LT5.	LT5.
CHLOROETHANE	UG/L		LT10.	LT10.
2-CHLOROETHYLYVINYL ETHER	UG/L		LT10.	LT10.
CHLOROFORM	UG/L		LT5.	LT5.
DICHLOROBROMOMETHANE	UG/L		LT5.	LT5.
1,1-DICHLOROETHANE	UG/L		LT5.	LT5.
1,2-DICHLOROETHANE	UG/L		LT1.	LT1.
1,1-DICHLOROETHYLENE	UG/L		LT5.	LT5.
1,2-DICHLOROPROPANE	UG/L		LT10.	LT10.
1,3-DICHLOROPROPYLENE	UG/L		LT5.	LT5.
ETHYLBENZENE	UG/L		LT5.	LT5.
METHYL BROMIDE	UG/L		LT10.	LT10.
METHYL CHLORIDE	UG/L		LT10.	LT10.
METHYLENE CHLORIDE	UG/L		LT5.	LT5.
1,1,2,2-TETRACHLOROETHANE	UG/L		LT10.	LT10.
TETRACHLOROETHYLENE	UG/L		LT5.	LT5.
TOLUENE	UG/L		LT5.	LT5.
1,2-TRANS-DICHLOROETHYLENE	UG/L		LT5.	18.
1,1,1-TRICHLOROETHANE	UG/L		LT5.	LT5.
1,1,2-TRICHLOROETHANE	UG/L		LT5.	LT5.
TRICHLOROETHYLENE	UG/L		LT5.	LT5.
VINYL CHLORIDE	UG/L		LT10.	LT10.
CYANIDE, TOTAL, TIT.	MG/L	0.076	0.013	0.009
NICKEL	MG/L	NO DATA	NO DATA	NO DATA
NITROGEN, AMMONIA	MG/L	NO DATA	NO DATA	NO DATA
TEMPERATURE	C	13.	12.	13.
GROUND WATER ELEVATION	FT MSL	583.76	584.78	590.9

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 23 APR 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUNDCLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: PERMTR
SAMPLING ROUND: 01 YEAR: 85 PURPOSE: SEMIANNUAL#-----
| (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
| LOCATIONS SHOWN WITH *)

		LAKE	MICHIGAN	---
HWD5-05	HWT2-08		HWD2-06	| | --
(+)	(+)(+)	- - -	(+)- (+)	
*	*** HWT2-09		GARY HWD2-05	* ..
	*		HARBOR	(+).
	HWT2-10(+)(+)			
	HWT14-05	....	RIVER	* NORTH
		... ... CALUMET		***
				* * *
		..... GRAND		*
				*

#----- GARY WORKS * PERIMETER WELLS -----*

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD5-05		HWT2-08		HWT2-09		HWT2-10		HWT14-05	
			PERIMETER	03/02/85								
ARSENIC	MG/L	0.05	LT0.01		0.042		0.053		0.051		0.057	
BARIUM	MG/L	1.0	LT0.5		LT0.5		LT0.5		LT0.5		LT0.5	
CADMIUM	MG/L	0.01	LT0.02		LT0.02		LT0.02		LT0.02		LT0.02	
CHROMIUM	MG/L	0.05	LT0.1		LT0.1		LT0.1		LT0.1		LT0.1	
FLUORIDE	MG/L	1.4-2.4	0.98		0.25		0.46		0.2		0.51	
LEAD	MG/L	0.05	LT0.1		LT0.1		LT0.1		LT0.1		LT0.1	
MERCURY	MG/L	0.002	LT0.0002									
NITRATE	MG/L	10.	0.02		0.59		0.06		0.56		0.15	
SELENIUM	MG/L	0.01	LT0.0025		LT0.0025		LT0.0025		LT0.0025		LT0.0025	
SILVER	MG/L	0.05	LT0.05									
CHLORIDE	MG/L		54.		280.		21.		22.		18.	
IRON	MG/L		0.11		0.14		0.49		7.14		8.13	
MANGANESE	MG/L		LT0.05		0.21		LT0.05		0.32		0.19	
PHENOLS	MG/L		0.02		LT0.01		0.02		LT0.01		0.01	
SODIUM	MG/L		25.3		41.6		36.3		17.8		19.	
SULFATE	MG/L		94.		41.		15.		88.		150.	
PH	SU		11.9		8.5		11.		7.3		7.2	
SPECIFIC CONDUCTANCE	UMHOS/CM		1390.		1210.		420.		750.		840.	
TOTAL ORGANIC CARBON	MG/L		2.2		4.2		13.5		5.5		4.2	
TOTAL ORGANIC HALOGEN	UG/L		40.		50.		70.		LT10.		LT10.	
ACROLEIN	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
ACRYLONITRILE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
BENZENE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
BROMOFORM	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CARBON TETRACHLORIDE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CHLOROBENZENE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CHLORODIBROMOMETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CHLOROETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
2-CHLOROETHYL VINYL ETHER	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CHLOROFORM	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
DICHLOROBROMOMETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
DICHLORODIFLUOROMETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
1,1-DICHLOROETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
1,2-DICHLOROETHANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
1,1-DICHLOROETHYLENE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
1,2-DICHLOROPROPANE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	
CIS-1,3-DICHLOROPROPENE	UG/L		NO DATA		NO DATA		NO DATA		NO DATA		NO DATA	

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 23 APR 85

**TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND**

CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: PERMTR
SAMPLING ROUND: 01 YEAR: 85 PURPOSE: SEMIANNUAL

PARAMETER	UNIT
TRANS-1, 3-DICHLOROPROPENE	UG/L
ETHYLBENZENE	UG/L
METHYL BROMIDE	UG/L
METHYL CHLORIDE	UG/L
METHYLENE CHLORIDE	UG/L
1,1,2,2-TETRACHLOROETHANE	UG/L
TETRACHLOROETHYLENE (PERCHLORO)	UG/L
TOLUENE	UG/L
1,2-TRANS-DICHLOROETHYLENE	UG/L
1,1,1-TRICHLOROETHANE	UG/L
1,1,2-TRICHLOROETHANE	UG/L
TRICHLOROETHYLENE	UG/L
TRICHLOROFLUOROMETHANE	UG/L
VINYL CHLORIDE	UG/L
CYANIDE, TOTAL, TIT.	MG/L
NICKEL	MG/L
TEMPERATURE	C
GROUND WATER ELEVATION	FT M

*-----
| (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
| LOCATIONS SHOWN WITH *)

		LAKE	MICHIGAN	---
HWD5-05	HWT2-08		HWD2-06	I 1--
(+)	(+)(+)	-----	----- -----	(+)- (+)
*	*** HWT2-09		GARY	HWD2-05 *..
	*		HARBOR	(+).
HWT2-10(+)(+)		.....		HWD2-07
HWT14-05		.....	RIVER	* NORTH
		....	CALUMET	***
			* * *
		GRAND		*
				*

***** GARY WORKS * PERIMETER WELLS *****

SAMPLING POINT, SAMPLE NO.			
HWT2-08	HWT2-09	HWT2-10	HWT14-05
PERIMETER	PERIMETER	PERIMETER	PERIMETER
03/02/85	03/02/85	03/02/85	03/02/85
850108	850107	850110	850111
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
NO DATA	NO DATA	NO DATA	NO DATA
LTO.1	LTO.1	LTO.1	LTO.1
18.	14.5	11.	11.
582.93	581.36	588.73	583.93

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 23 APR 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: PERMTR
 SAMPLING ROUND: 01 YEAR: 85 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD2-05	PERIMETER 03/02/85 850112	PERIMETER 03/02/85 850113	HWD2-05
			03/02/85 850112			03/02/85 850114
ARSENIC	MG/L	0.05	LT0.01	0.031	0.052	
BARIUM	MG/L	1.0	LT0.5	LT0.5	LT0.5	
CADMIUM	MG/L	0.01	LT0.02	LT0.02	LT0.02	
CHROMIUM	MG/L	0.05	LT0.1	LT0.1	LT0.1	
FLUORIDE	MG/L	1.4-2.4	1.1	0.54	0.5	
LEAD	MG/L	0.05	LT0.1	LT0.1	LT0.1	
MERCURY	MG/L	0.002	LT0.0002	LT0.0002	LT0.0002	
NITRATE	MG/L	10.	0.15	0.24	0.33	
SELENIUM	MG/L	0.01	LT0.0025	LT0.0025	LT0.0025	
SILVER	MG/L	0.05	LT0.05	LT0.05	LT0.05	
CHLORIDE	MG/L	65.	84.	51.		
IRON	MG/L	1.8	3.72	1.98		
MANGANESE	MG/L	0.22	0.16	0.11		
PHENOLS	MG/L	LT0.01	0.02	0.02		
SODIUM	MG/L	66.6	49.	52.2		
SULFATE	MG/L	470.	430.	440.		
PH	SU	7.5	7.5	7.3		
SPECIFIC CONDUCTANCE	UMHOS/CM	1260.	1180.	1470.		
TOTAL ORGANIC CARBON	MG/L	9.7	4.7	50.5		
TOTAL ORGANIC HALOGEN	UG/L	LT10.	120.	50.		
ACROLEIN	UG/L	NO DATA	LT25.	LT25.		
ACRYLONITRILE	UG/L	NO DATA	LT25.	LT25.		
BENZENE	UG/L	NO DATA	LT5.	LT5.		
BROMOFORM	UG/L	NO DATA	LT5.	LT5.		
CARBON TETRACHLORIDE	UG/L	NO DATA	LT5.	LT5.		
CHLOROBENZENE	UG/L	NO DATA	LT5.	LT5.		
CHLORODIBROMOMETHANE	UG/L	NO DATA	LT5.	LT5.		
CHLOROETHANE	UG/L	NO DATA	LT5.	LT5.		
2-CHLOROETHYL VINYL ETHER	UG/L	NO DATA	LT5.	LT5.		
CHLOROFORM	UG/L	NO DATA	LT5.	LT5.		
DICHLOROBROMOMETHANE	UG/L	NO DATA	LT5.	LT5.		
DICHLORODIFLUOROMETHANE	UG/L	NO DATA	LT5.	LT5.		
1,1-DICHLOROETHANE	UG/L	NO DATA	LT5.	LT5.		
1,2-DICHLOROETHANE	UG/L	NO DATA	LT5.	LT5.		
1,1-DICHLOROETHYLENE	UG/L	NO DATA	LT5.	LT5.		
1,2-DICHLOROPROPANE	UG/L	NO DATA	LT5.	LT5.		
CIS-1,3-DICHLOROPROPENE	UG/L	NO DATA	LT5.	LT5.		

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)
 | LAKE MICHIGAN
 | HWD5-05 HWT2-08 HWD2-06 I I--
 | (+) (+)(+)-----|-----|-----(+)- (+)
 | * *** HWT2-09 GARY HWD2-05 *..
 | * HARBOR (+).
 | HWT2-10(+) (+) HWT14-05 RIVER * NORTH
 | CALUMET ***
 | GRAND * * *
 |
 *----- GARY WORKS * PERIMETER WELLS -----*

SAMPLING POINT, SAMPLE NO.
 HWD2-06 HWD2-07
 PERIMETER PERIMETER
 03/02/85 03/02/85
 850114

SUMMARY REPORT - SAMPLING ROUND (SR-2)

REPORT DATE: 23 APR 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

CLIENT: U.S. STEEL CORPORATION
 FACILITY: GARY WORKS LOCATION: GARY, INDIANA
 SITE: PERMTR
 SAMPLING ROUND: 01 YEAR: 85 PURPOSE: SEMIANNUAL

PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWD2-05 03/02/85 850112	PERIMETER	HWD2-06 03/02/85 850113	PERIMETER	HWD2-07 03/02/85 850114
TRANS-1,3-DICHLOROPROPENE	UG/L		NO DATA	LT5.	LT5.		
ETHYLBENZENE	UG/L		NO DATA	11.	LT5.		
METHYL BROMIDE	UG/L		NO DATA	LT5.	LT5.		
METHYL CHLORIDE	UG/L		NO DATA	LT5.	LT5.		
METHYLENE CHLORIDE	UG/L		NO DATA	LT5.	LT5.		
1,1,2,2-TETRACHLOROETHANE	UG/L		NO DATA	LT5.	LT5.		
TETRACHLOROETHYLENE (PERCHLORO)	UG/L		NO DATA	LT5.	LT5.		
TOLUENE	UG/L		NO DATA	LT5.	LT5.		
1,2-TRANS-DICHLOROETHYLENE	UG/L		NO DATA	43.	LT5.		
1,1,1-TRICHLOROETHANE	UG/L		NO DATA	LT5.	LT5.		
1,1,2-TRICHLOROETHANE	UG/L		NO DATA	LT5.	LT5.		
TRICHLOROETHYLENE	UG/L		NO DATA	LT5.	LT5.		
TRICHLOROFLUOROMETHANE	UG/L		NO DATA	LT5.	LT5.		
VINYL CHLORIDE	UG/L		NO DATA	LT5.	LT5.		
CYANIDE, TOTAL, TIT.	MG/L		0.04	0.01	LT0.01		
NICKEL	MG/L		LTO.1	LTO.1	LTO.1		
TEMPERATURE	C		13.	12.	12.		
GROUND WATER ELEVATION	FT MSL		584.86	585.53	591.92		

*-----
 | (NOTE: HAZ. MATERIAL TREATMENT-DISPOSAL SITE
 | LOCATIONS SHOWN WITH *)
 |
 | HWD5-05 HWT2-08 LAKE MICHIGAN HWD2-06 | |--|
 | (+) (+)(+)- ----- |----- (+)- (+) |
 | * *** HWT2-09 GARY HWD2-05 *.. |
 | * HAIRBOR (+). |
 | HWT2-10(+)(+) HWT14-05 RIVER * NORTH |
 | CALUMET *** |
 | GRAND * |
 | * |
 *----- GARY WORKS * PERIMETER WELLS -----*

SAMPLING POINT, SAMPLE NO.

HWD2-06	HWD2-07
03/02/85	03/02/85
850113	850114